

# Section 14

## Transformers

General Purpose Dry Type  
600 Volts and Below



Type T and Type TF



Medium Voltage  
Distribution Transformer



### EZ Selector–Selection Assistance 14-2

|                                                  |      |
|--------------------------------------------------|------|
| LV Transformers EZ Selector–Selection Assistance | 14-2 |
| LV Transformers EZ Selector–Selection Assistance | 14-2 |

### Low-Voltage Dry-Type Distribution Transformers 14-3

|                                                                  |       |
|------------------------------------------------------------------|-------|
| Overview                                                         | 14-3  |
| General Purpose Dry Type 600 Volts and Below Overview            | 14-3  |
| DOE 2016 Energy Efficient Three Phase                            | 14-4  |
| DOE 2016 Energy Efficient Single Phase and Single Phase Watchdog | 14-7  |
| Accessories                                                      | 14-8  |
| Enclosures and Accessories                                       | 14-8  |
| Mini Power-Zone Unit Substation                                  | 14-10 |
| Sealed, Mini Power-Zone™ Unit Substation                         | 14-10 |
| Resin Encapsulated Three and Single Phase Transformers           | 14-11 |
| Resin Encapsulated Export Model and Buck Boost Transformers      | 14-12 |
| Non-Ventilated and Transformer House                             | 14-13 |
| PZC Transformer Enclosures                                       | 14-13 |

### Industrial Control Transformers 14-14

|                                                                |       |
|----------------------------------------------------------------|-------|
| Type T and Type TF                                             | 14-14 |
| Transformer Disconnects                                        | 14-19 |
| Transformer Disconnects for NEMA Type 1 and Type 12 Enclosures | 14-19 |

### Instrument, 600 Volt Class 14-20

|                                  |       |
|----------------------------------|-------|
| Voltage and Current Transformers | 14-20 |
| Voltage Transformers             | 14-20 |
| Current Transformers             | 14-20 |

### Energy Efficient, Dry Type 2.4, 5, and 15 kV 14-21

|                                                                    |       |
|--------------------------------------------------------------------|-------|
| DOE 2016 Energy Efficient Medium Voltage Distribution Transformers | 14-21 |
| Medium Voltage Distribution Transformers                           | 14-21 |
| Dry Type Medium Voltage Transformers                               | 14-22 |
| 1,201–15,000 Vac Three-Phase Indoor Transformers                   | 14-22 |
| 1,201–15,000 Vac Single-Phase Indoor Transformers                  | 14-23 |
| Transformer Enclosures                                             | 14-24 |

## LV Transformers EZ Selector–Selection Assistance

### LV Transformers EZ Selector

#### Steps to select an LV transformer.



1. Select product type:
  - Three Phase – Energy Efficient – EX (DOE 2016)
  - Three Phase – Energy Efficient – EX, K-13 Rated (DOE 2016)
  - Three Phase – Energy Efficient – EX, Watchdog Low Temperature Rise (DOE 2016)
  - Single Phase – Energy Efficient – EE (DOE 2016)
  - Three Phase – Resin Encapsulated
  - Single Phase – Resin Encapsulated
2. Select kVA Rating – 15, 30, 45, 75, 112.5, 150, 225, 300, 500, or 750 kVA
3. Select Primary Voltage – 208, 240, 480, or 600 Vac Delta
4. Select Secondary Voltage – 208Y/120, 240 Vac Delta 120 V CT, 480Y/277
5. Select Mounting – Floor, Wall
6. Select Enclosure – Indoor (Type 1), Indoor (Type 2), Indoor/Outdoor (Type 3R), Indoor/Outdoor (Type 4X)
7. Select Temperature Rise – 55°C, 80°C, 115°C, 150°C
8. Select Material – Aluminum, Copper
9. Select Sound Level – 39 dB (6 dB below), 44 dB (6 dB below), 47 dB (3 dB below), 49 dB (6 dB below), 54 dB (6 dB below), 58 dB (6 dB below)

#### Additional Information

Search for “LV Transformers” from our technical FAQs page: [www.schneider-electric.us/en/faqs](http://www.schneider-electric.us/en/faqs)

For catalog information, please use this link: [LV Transformer Documents](#)

## General Purpose Dry Type 600 Volts and Below Overview

The Energy Policy and Conservation Act of 1975 (EPCA), update in the Energy Policy Act of 2005, authorized the Department of Energy (DOE) to evaluate and set minimum efficiency levels for Low Voltage Distribution Transformers. The DOE published a final rule prescribing new energy conservation standards for distribution transformers. 78 FR 23335 (April 18, 2013).

10 CFR 431.196: The efficiency of a low-voltage dry-type distribution transformer manufactured on or after January 1, 2016, shall be no less than that required for their kVA rating in the table below. Low-voltage dry-type distribution transformers with kVA ratings not appearing in the table shall have their minimum efficiency level determined by linear interpolation of the kVA and efficiency values immediately above and below that kVA rating. All efficiency values are at thirty-five percent of nameplate-rated load temperature corrected to 75°C, determined according to the DOE Test Method for Measuring the Energy Consumption of Distribution Transformers under Appendix A to Subpart K of 10 CFR part 431. [https://www1.eere.energy.gov/buildings/appliance\\_standards/standards.aspx?productid=55&action=viewcurrent](https://www1.eere.energy.gov/buildings/appliance_standards/standards.aspx?productid=55&action=viewcurrent)

| Energy Conservation Standards for Low-Voltage Dry-Type Distribution Transformers |                  |             |                  |
|----------------------------------------------------------------------------------|------------------|-------------|------------------|
| Single phase                                                                     |                  | Three phase |                  |
| kVA                                                                              | Efficiency % [1] | kVA         | Efficiency % [1] |
| 15                                                                               | 97.70            | 15          | 97.89            |
| 25                                                                               | 98.00            | 30          | 98.23            |
| 37.5                                                                             | 98.20            | 45          | 98.40            |
| 50                                                                               | 98.30            | 75          | 98.60            |
| 75                                                                               | 98.50            | 112.5       | 98.74            |
| 100                                                                              | 98.60            | 150         | 98.83            |
| 167                                                                              | 98.70            | 225         | 98.94            |
| 250                                                                              | 98.80            | 300         | 99.02            |
| 333                                                                              | 98.90            | 500         | 99.14            |
| —                                                                                | —                | 750         | 99.23            |
| —                                                                                | —                | 1000        | 99.28            |

Distribution transformer means a transformer that (1) has an input voltage of 34.5 kV or less; (2) has an output voltage of 600 V or less; (3) is rated for operation at a frequency of 60 Hz; and (4) has a capacity of 10 to 2500 kVA for liquid-immersed units and 15 to 2500 kVA for dry-type units.

Low voltage dry-type distribution transformer means a distribution transformer that: has an input voltage of 600 V or less, is air-cooled, and not used oil as a coolant.

The following product offering must comply with the table above:

- Three- and single-phase
- Step up and step down transformers
- General purpose ventilated transformers (isolation transformers)
- Watchdog general purpose ventilated transformers (low temperature rise)
- Transformers designed for harmonic applications (K-rated, harmonic mitigating, data center transformers, etc.)
- General purpose open core and coil transformers

The following low voltage transformers do not need to comply with the table above:

- Auto-transformers
- Drive isolation transformers
- Non-ventilated transformers
- Resin encapsulated transformers
- Buck boost transformers
- Control transformers (machine tool)
- Medical isolation panel transformers compliance with UL 1047 (tables 30.1 and 30.2) (SPECIAL IZ — LOW LEAKAGE)

### New Three-Phase Offering from Square D — DOE 2016 EX

- Exceed the efficiency levels from 10 CFR 431.196
- Terminals sized to handle wire ranges to match Square D circuit breakers, switches, panelboards, etc. Located to meet NEC bending radius and layout to simplify connections
- IZ Levels to allow for designing with the minimum AIC Panels available
- In-rush current limited to expand the Square D circuit breaker options at both 125 and 250% sizing
- Sound level at 3 dB for all designs, but up to 6–10 dB below on certain units—QUIET QUALITY
- 1/2 in. clearance from the rear and side, **UL 1561alcove testing all enclosures to not exceed 90°C on adjacent walls**
- Four product families of the DOE 2016 EX: General purpose, aluminum and copper windings, 150°C rise; Watchdog, low temperature rise, aluminum and copper windings, 115 or 80°C rise; Two solutions for harmonic loads: K-13 Wye secondary, harmonic mitigating transformers and K-9 ZigZag secondary, harmonic mitigating transformers.

[1] Efficiencies are determined at the following reference conditions:

(1) for no-load losses, at the temperature of 20°C; (2) for load-losses, at the temperature of 75°C and 35% of nameplate load. (Source: Table 4–2 of National Electrical Manufacturers Association (NEMA) Standard TP–1–2002, *Guide for Determining Energy Efficiency for Distribution Transformers*.)

DOE 2016 Energy Efficient Three Phase

Table 14.1: EXN & EX Three-Phase 60 Hz, 208Y/120 Vac Secondary; UL Listed

| kVA                                                | Catalog No.  | Minimum Efficiency<br>@ 35% 75°C | Full Capacity Taps          | Degree C<br>Temp. Rise | Insulation<br>Class | %I <sub>Z</sub> | Sound<br>Level dB | Weight (lbs)<br>[2] | Enclosure[3] |
|----------------------------------------------------|--------------|----------------------------------|-----------------------------|------------------------|---------------------|-----------------|-------------------|---------------------|--------------|
| <b>480 Vac Delta Primary, Aluminum Windings</b>    |              |                                  |                             |                        |                     |                 |                   |                     |              |
| 15                                                 | EXN15T3H     | 97.89%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.03%           | 39 dB             | 188                 | 17M          |
| 30                                                 | EXN30T3H     | 98.23%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.80%           | 39 dB             | 303                 | 18M          |
| 45                                                 | EXN45T3H     | 98.40%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.10%           | 39 dB             | 369                 | 19M          |
| 75                                                 | EXN75T3H     | 98.60%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.90%           | 44 dB             | 515                 | 20M          |
| 112.5                                              | EXN112T3H    | 98.74%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.70%           | 44 dB             | 724                 | 21M          |
| 150                                                | EXN150T3H    | 98.83%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.10%           | 44 dB             | 933                 | 22M          |
| 225                                                | EX225T3H     | 98.94%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.4%            | 52 dB             | 1450                | 25J          |
| 300                                                | EX300T3H     | 99.02%                           | 6-2.5%2+4-                  | 150                    | 220                 | 5.0%            | 52 dB             | 1860                | 25J          |
| 500                                                | EX500T68H    | 99.14%                           | 4-2.5%2+2-                  | 150                    | 220                 | 4.9%            | 57 dB             | 2915                | 30J          |
| 750                                                | EX750T68H    | 99.23%                           | 4-2.5%2+2-                  | 150                    | 220                 | —               | 61 dB             | 4000                | 31J          |
| <b>600 Vac Delta Primary, Aluminum Windings</b>    |              |                                  |                             |                        |                     |                 |                   |                     |              |
| 15                                                 | EXN15T65H    | 97.89%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.32%           | 39 dB             | 188                 | 17M          |
| 30                                                 | EXN30T65H    | 98.23%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.70%           | 39 dB             | 324                 | 18M          |
| 45                                                 | EXN45T65H    | 98.40%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.10%           | 39 dB             | 368                 | 19M          |
| 75                                                 | EXN75T65H    | 98.60%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.67%           | 44 dB             | 513                 | 20M          |
| 112.5                                              | EXN112T65H   | 98.74%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.62%           | 44 dB             | 727                 | 21M          |
| 150                                                | EXN150T65H   | 98.83%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.14%           | 44 dB             | 1002                | 22M          |
| 225                                                | EX225T65H    | 98.94%                           | 6-2.5%2+4-                  | 150                    | 220                 | 5.2%            | 52 dB             | 1450                | 25J          |
| 300                                                | EX300T65H    | 99.02%                           | 6-2.5%2+4-                  | 150                    | 220                 | 5.3%            | 52 dB             | 1860                | 25J          |
| 500                                                | EX500T79H    | 99.14%                           | 4-2.5%2+2-                  | 150                    | 220                 | —               | 57 dB             | 2915                | 30J          |
| 750                                                | EX750T79H    | 99.23%                           | 4-2.5%2+2-                  | 150                    | 220                 | —               | 61 dB             | 4000                | 31J          |
| <b>208 Vac Delta Primary, Aluminum Windings[4]</b> |              |                                  |                             |                        |                     |                 |                   |                     |              |
| 15                                                 | EXN15T3156H  | 97.89%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.04%           | 39 dB             | 192                 | 17M          |
| 30                                                 | EXN30T3156H  | 98.23%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.22%           | 39 dB             | 363                 | 18M          |
| 45                                                 | EXN45T3156H  | 98.40%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.04%           | 39 dB             | 396                 | 19M          |
| 75                                                 | EXN75T3156H  | 98.60%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.88%           | 44 dB             | 526                 | 20M          |
| 112.5                                              | EXN112T3156H | 98.74%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.48%           | 44 dB             | 811                 | 21M          |
| 150                                                | EXN150T3156H | 98.83%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.22%           | 44 dB             | 1015                | 22M          |
| 225                                                | EX225T211H   | 98.94%                           | 3-5%1+2-                    | 150                    | 220                 | 4.7%            | 52 dB             | 1450                | 25J          |
| 300                                                | EX300T211H   | 99.02%                           | 3-5%1+2-                    | 150                    | 220                 | 4.4%            | 52 dB             | 1860                | 25J          |
| 500                                                | EX500T211H   | 99.14%                           | 3-5%1+2-                    | 150                    | 220                 | —               | 57 dB             | 2915                | 30J          |
| <b>240 Vac Delta Primary, Aluminum Windings[4]</b> |              |                                  |                             |                        |                     |                 |                   |                     |              |
| 15                                                 | EXN15T3156H  | 97.89%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.04%           | 39 dB             | 192                 | 17M          |
| 30                                                 | EXN30T3156H  | 98.23%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.22%           | 39 dB             | 363                 | 18M          |
| 45                                                 | EXN45T3156H  | 98.40%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.04%           | 39 dB             | 396                 | 19M          |
| 75                                                 | EXN75T3156H  | 98.60%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.88%           | 44 dB             | 526                 | 20M          |
| 112.5                                              | EXN112T3156H | 98.74%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.48%           | 44 dB             | 811                 | 21M          |
| 150                                                | EXN150T3156H | 98.83%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.22%           | 44 dB             | 1015                | 22M          |
| 225                                                | EX225T239H   | 98.94%                           | 3-5%1+2-                    | 150                    | 220                 | 4.6%            | 52 dB             | 1450                | 25J          |
| 300                                                | EX300T239H   | 99.02%                           | 3-5%1+2-                    | 150                    | 220                 | 5.2%            | 52 dB             | 1860                | 25J          |
| 500                                                | EX500T239H   | 99.14%                           | 3-5%1+2-                    | 150                    | 220                 | —               | 57 dB             | 2915                | 30J          |
| <b>480 Vac Delta Primary, Copper Windings</b>      |              |                                  |                             |                        |                     |                 |                   |                     |              |
| 15                                                 | EXN15T3HCU   | 97.89%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.06%           | 39 dB             | 222                 | 17M          |
| 30                                                 | EXN30T3HCU   | 98.23%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.08%           | 39 dB             | 356                 | 18M          |
| 45                                                 | EXN45T3HCU   | 98.40%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.44%           | 39 dB             | 399                 | 19M          |
| 75                                                 | EXN75T3HCU   | 98.60%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.99%           | 44 dB             | 661                 | 20M          |
| 112.5                                              | EXN112T3HCU  | 98.74%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.27%           | 44 dB             | 974                 | 21M          |
| 150                                                | EXN150T3HCU  | 98.83%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.60%           | 44 dB             | 1156                | 22M          |
| 225                                                | EX225T3HCU   | 98.94%                           | 6-2.5%2+4-                  | 150                    | 220                 | 5.7%            | 52 dB             | 1545                | 25J          |
| 300                                                | EX300T3HCU   | 99.02%                           | 6-2.5%2+4-                  | 150                    | 220                 | 6.0%            | 52 dB             | 1975                | 25J          |
| 500                                                | EX500T68HCU  | 99.14%                           | 4-2.5%2+2-                  | 150                    | 220                 | 4.8%            | 57 dB             | 3705                | 30J          |
| 750                                                | EX750T68HCU  | 99.23%                           | 4-2.5%2+2-                  | 150                    | 220                 | 5.3%            | 61 dB             | 4400                | 31J          |

Table 14.2: EXN & EX Three-Phase 60 Hz, 480Y/277 Vac Secondary; UL Listed

| kVA                                                | Catalog No.  | Minimum Efficiency<br>@ 35% 75°C | Full Capacity Taps          | Degree C<br>Temp. Rise | Insulation<br>Class | %I <sub>Z</sub> | Sound<br>Level | Weight (lbs)[2] | Enclosure[3] |
|----------------------------------------------------|--------------|----------------------------------|-----------------------------|------------------------|---------------------|-----------------|----------------|-----------------|--------------|
| <b>208 Vac Delta Primary, Aluminum Windings[5]</b> |              |                                  |                             |                        |                     |                 |                |                 |              |
| 15                                                 | EXN15T3155H  | 97.89%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 4.01%           | 39 dB          | 191             | 17M          |
| 30                                                 | EXN30T3155H  | 98.23%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.43%           | 39 dB          | 335             | 18M          |
| 45                                                 | EXN45T3155H  | 98.40%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.86%           | 39 dB          | 395             | 19M          |
| 75                                                 | EXN75T3155H  | 98.60%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.94%           | 44 dB          | 544             | 20M          |
| 112.5                                              | EXN112T3155H | 98.74%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.67%           | 44 dB          | 735             | 21M          |
| 150                                                | EXN150T3155H | 98.83%                           | 192/200/208/216/232/240/248 | 150                    | 220                 | 3.12%           | 44 dB          | 1020            | 22M          |
| 225                                                | EX225T212H   | 98.94%                           | 3-5%1+2-                    | 150                    | 220                 | 5.8%            | 52 dB          | 1450            | 25J          |
| 300                                                | EX300T212H   | 99.02%                           | 3-5%1+2-                    | 150                    | 220                 | 5.2%            | 52 dB          | 1860            | 25J          |
| 500                                                | EX500T212H   | 99.14%                           | 3-5%1+2-                    | 150                    | 220                 | 4.8%            | 57 dB          | 2915            | 30J          |
| <b>480 Vac Delta Primary, Aluminum Windings</b>    |              |                                  |                             |                        |                     |                 |                |                 |              |
| 15                                                 | EXN15T1814H  | 97.89%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.62%           | 39 dB          | 191             | 17M          |
| 30                                                 | EXN30T1814H  | 98.23%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.50%           | 39 dB          | 333             | 18M          |
| 45                                                 | EXN45T1814H  | 98.40%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.95%           | 39 dB          | 373             | 19M          |
| 75                                                 | EXN75T1814H  | 98.60%                           | 6-2.5%2+4-                  | 150                    | 220                 | 5.03%           | 44 dB          | 531             | 20M          |
| 112.5                                              | EXN112T1814H | 98.74%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.53%           | 44 dB          | 730             | 21M          |
| 150                                                | EXN150T1814H | 98.83%                           | 6-2.5%2+4-                  | 150                    | 220                 | 3.08%           | 44 dB          | 1012            | 22M          |
| 225                                                | EX225T1814H  | 98.94%                           | 6-2.5%2+4-                  | 150                    | 220                 | 4.6%            | 52 dB          | 1450            | 25J          |
| 300                                                | EX300T1814H  | 99.02%                           | 6-2.5%2+4-                  | 150                    | 220                 | 5.4%            | 52 dB          | 1860            | 25J          |
| 500                                                | EX500T76H    | 99.14%                           | 4-2.5%2+2-                  | 150                    | 220                 | —               | 57 dB          | 2915            | 30J          |

[2] Not for construction, Contact your local Schneider Electric representative for certified prints.

[3] For enclosure styles, see Table 14.8 Enclosure Dimensions and Accessories, page 14-8

[4] 3156 Catalog Numbers are shipped connected as 240 V.

[5] 3155 Catalog Numbers are shipped connected as 240 V.

**Table 14.3: EXN & EX Three Phase 60 Hz, 240 Vac Delta Secondary; UL Listed**

| 120 Volt Center Tap - Limited to 7.5% Loading, Design for Ground Reference and Light Maintenance Loading. |             |                               |                    |                     |                  |       |                |                  |              |
|-----------------------------------------------------------------------------------------------------------|-------------|-------------------------------|--------------------|---------------------|------------------|-------|----------------|------------------|--------------|
| kVA                                                                                                       | Catalog No. | Minimum Efficiency @ 35% 75°C | Full Capacity Taps | Degree C Temp. Rise | Insulation Class | %IZ   | Sound Level dB | Weight (lbs) [6] | Enclosure[7] |
| <b>480 Vac Delta Primary, Aluminum Windings</b>                                                           |             |                               |                    |                     |                  |       |                |                  |              |
| 15                                                                                                        | EXN15T6HCT  | 0.9789                        | 6-2.5%2+4-         | 150                 | 220              | 4.70% | 39 dB          | 193              | 17M          |
| 30                                                                                                        | EXN30T6HCT  | 0.9823                        | 6-2.5%2+4-         | 150                 | 220              | 2.99% | 39 dB          | 361              | 18M          |
| 45                                                                                                        | EXN45T6HCT  | 0.984                         | 6-2.5%2+4-         | 150                 | 220              | 4.06% | 39 dB          | 369              | 19M          |
| 75                                                                                                        | EXN75T6HCT  | 0.986                         | 6-2.5%2+4-         | 150                 | 220              | 5.08% | 44 dB          | 529              | 20M          |
| 112.5                                                                                                     | EXN112T6HCT | 0.9874                        | 6-2.5%2+4-         | 150                 | 220              | 3.47% | 44 dB          | 730              | 21M          |
| 150                                                                                                       | EXN150T6HCT | 0.9883                        | 6-2.5%2+4-         | 150                 | 220              | 3.08% | 44 dB          | 1007             | 22M          |
| 225                                                                                                       | EX225T6HCT  | 98.94%                        | 6-2.5%2+4-         | 150                 | 220              | 4.5%  | 52 dB          | 1820             | 25J          |
| 300                                                                                                       | EX300T6HCT  | 99.02%                        | 6-2.5%2+4-         | 150                 | 220              | 5.2%  | 52 dB          | 1960             | 25J          |
| 500                                                                                                       | EX500T63HCT | 99.14%                        | 4-2.5%2+2-         | 150                 | 220              | 4.9%  | 57 dB          | 3090             | 30J          |
| 750                                                                                                       | EX750T63HCT | 99.23%                        | 4-2.5%2+2-         | 150                 | 220              | 4.9%  | 61 dB          | 4120             | 31J          |
| 15                                                                                                        | EXN15T6H    | 97.89%                        | 6-2.5%2+4-         | 150                 | 220              | 4.70% | 39dB           | 193              | 17M          |
| 30                                                                                                        | EXN30T6H    | 98.23%                        | 6-2.5%2+4-         | 150                 | 220              | 2.99% | 39dB           | 361              | 18M          |
| 45                                                                                                        | EXN45T6H    | 98.40%                        | 6-2.5%2+4-         | 150                 | 220              | 4.06% | 39dB           | 369              | 19M          |
| 75                                                                                                        | EXN75T6H    | 98.60%                        | 6-2.5%2+4-         | 150                 | 220              | 5.08% | 44dB           | 529              | 20M          |
| 112.5                                                                                                     | EXN112T6H   | 98.74%                        | 6-2.5%2+4-         | 150                 | 220              | 3.47% | 44dB           | 730              | 21M          |
| 150                                                                                                       | EXN150T6H   | 98.83%                        | 6-2.5%2+4-         | 150                 | 220              | 3.08% | 44dB           | 1007             | 22M          |
| 15                                                                                                        | EXN15T6H    | 97.89%                        | 6-2.5%2+4-         | 150                 | 220              | 4.70% | 39 dB          | 193              | 17M          |
| 30                                                                                                        | EXN30T6H    | 98.23%                        | 6-2.5%2+4-         | 150                 | 220              | 2.99% | 39 dB          | 361              | 18M          |
| 45                                                                                                        | EXN45T6H    | 98.40%                        | 6-2.5%2+4-         | 150                 | 220              | 4.06% | 39 dB          | 369              | 19M          |
| 75                                                                                                        | EXN75T6H    | 98.60%                        | 6-2.5%2+4-         | 150                 | 220              | 5.08% | 44 dB          | 529              | 20M          |
| 112.5                                                                                                     | EXN112T6H   | 98.74%                        | 6-2.5%2+4-         | 150                 | 220              | 3.47% | 44 dB          | 730              | 21M          |
| 150                                                                                                       | EXN150T6H   | 98.83%                        | 6-2.5%2+4-         | 150                 | 220              | 3.08% | 44 dB          | 1007             | 22M          |

Watchdog transformers, by design, reduce energy consumption at loads greater than 50% loading, giving fewer BTUs/hour at those loading levels. The life expectancy is greater than that of 150°C rise General Purpose units.

- Aluminum or copper windings
- Two temperature rise options: 115°C rise on 220°C insulation systems (15% continuous emergency overload capacity); 80°C rise on 220°C insulation systems (30% continuous emergency overload capacity)

**Table 14.4: EXN & EX Three Phase 60 Hz; UL Listed**

| kVA                                                               | Catalog No.  | Minimum Efficiency @ 35% 75°C | Full Capacity Taps | Degree C Temp. Rise | Insulation Class | %IZ   | Sound Level | Weight (lbs) [6] | Enclosure[7] |
|-------------------------------------------------------------------|--------------|-------------------------------|--------------------|---------------------|------------------|-------|-------------|------------------|--------------|
| <b>480 V Delta Primary, 208Y/120 Secondary, Aluminum Windings</b> |              |                               |                    |                     |                  |       |             |                  |              |
| 15                                                                | EXN15T3HF    | 97.89%                        | 6-2.5%2+4-         | 115                 | 220              | 3.98% | 39 dB       | 184              | 17M          |
| 30                                                                | EXN30T3HF    | 98.23%                        | 6-2.5%2+4-         | 115                 | 220              | 2.92% | 39 dB       | 324              | 18M          |
| 45                                                                | EXN45T3HF    | 98.40%                        | 6-2.5%2+4-         | 115                 | 220              | 3.46% | 39 dB       | 400              | 19M          |
| 75                                                                | EXN75T3HF    | 98.60%                        | 6-2.5%2+4-         | 115                 | 220              | 5.07% | 44 dB       | 527              | 20M          |
| 112.5                                                             | EXN112T3HF   | 98.74%                        | 6-2.5%2+4-         | 115                 | 220              | 3.30% | 44 dB       | 806              | 21M          |
| 150                                                               | EXN150T3HF   | 98.83%                        | 6-2.5%2+4-         | 115                 | 220              | 3.29% | 44 dB       | 1012             | 22M          |
| 225                                                               | EX225T3HF    | 98.94%                        | 6-2.5%2+4-         | 115                 | 220              | 4.5%  | 49 dB       | 1825             | 24J          |
| 300                                                               | EX300T3HF    | 99.02%                        | 6-2.5%2+4-         | 115                 | 220              | 30.0% | 49 dB       | 1975             | 25J          |
| 500                                                               | EX500T68HF   | 99.14%                        | 4-2.5%2+2-         | 115                 | 220              | 4.9%  | 56 dB       | 3100             | 30J          |
| 750                                                               | EX750T68HF   | 99.23%                        | 4-2.5%2+2-         | 115                 | 220              | 5.0%  | 58 dB       | 4125             | 31J          |
| <b>480 V Delta Primary, 208Y/120 Secondary, Copper Windings</b>   |              |                               |                    |                     |                  |       |             |                  |              |
| 15                                                                | EXN15T3HFCU  | 97.89%                        | 6-2.5%2+4-         | 115                 | 220              | 3.90% | 39 dB       | 219              | 17M          |
| 30                                                                | EXN30T3HFCU  | 98.23%                        | 6-2.5%2+4-         | 115                 | 220              | 3.98% | 39 dB       | 358              | 18M          |
| 45                                                                | EXN45T3HFCU  | 98.40%                        | 6-2.5%2+4-         | 115                 | 220              | 3.72% | 39 dB       | 412              | 19M          |
| 75                                                                | EXN75T3HFCU  | 98.60%                        | 6-2.5%2+4-         | 115                 | 220              | 4.01% | 44 dB       | 653              | 20M          |
| 112.5                                                             | EXN112T3HFCU | 98.74%                        | 6-2.5%2+4-         | 115                 | 220              | 3.42% | 44 dB       | 899              | 21M          |
| 150                                                               | EXN150T3HFCU | 98.83%                        | 6-2.5%2+4-         | 115                 | 220              | 4.56% | 44 dB       | 1303             | 22M          |
| 225                                                               | EX225T3HFCU  | 98.94%                        | 6-2.5%2+4-         | 115                 | 220              | 6.8%  | 49 dB       | 1545             | 24J          |
| 300                                                               | EX300T3HFCU  | 99.02%                        | 6-2.5%2+4-         | 115                 | 220              | 5.0%  | 49 dB       | 1975             | 25J          |
| 500                                                               | EX500T68HFCU | 99.14%                        | 4-2.5%2+2-         | 115                 | 220              | 4.8%  | 56 dB       | 3705             | 30J          |
| 750                                                               | EX750T68HFCU | 99.23%                        | 4-2.5%2+2-         | 115                 | 220              | 5.3%  | 58 dB       | 4400             | 31J          |
| <b>480 V Delta Primary, 208Y/120 Secondary, Aluminum Windings</b> |              |                               |                    |                     |                  |       |             |                  |              |
| 15                                                                | EXN15T3HB    | 97.89%                        | 6-2.5%2+4-         | 80                  | 220              | 4.01% | 39 dB       | 195              | 17M          |
| 30                                                                | EXN30T3HB    | 98.23%                        | 6-2.5%2+4-         | 80                  | 220              | 4.37% | 39 dB       | 345              | 18M          |
| 45                                                                | EXN45T3HB    | 98.40%                        | 6-2.5%2+4-         | 80                  | 220              | 4.10% | 39 dB       | 416              | 19M          |
| 75                                                                | EXN75T3HB    | 98.60%                        | 6-2.5%2+4-         | 80                  | 220              | 5.05% | 44 dB       | 580              | 20M          |
| 112.5                                                             | EXN112T3HB   | 98.74%                        | 6-2.5%2+4-         | 80                  | 220              | 2.54% | 44 dB       | 949              | 21M          |
| 150                                                               | EXN150T3HB   | 98.83%                        | 6-2.5%2+4-         | 80                  | 220              | 3.92% | 44 dB       | 1208             | 22M          |
| 225                                                               | EX225T3HB    | 98.94%                        | 6-2.5%2+4-         | 80                  | 220              | 4.6%  | 49 dB       | 1975             | 25J          |
| 300                                                               | EX300T68HB   | 99.02%                        | 4-2.5%2+2-         | 80                  | 220              | 4.4%  | 56 dB       | 3100             | 30J          |
| 500                                                               | EX500T68HB   | 99.14%                        | 4-2.5%2+2-         | 80                  | 220              | 4.9%  | 58 dB       | 4125             | 31J          |
| <b>480 V Delta Primary, 208Y/120 Secondary, Copper Windings</b>   |              |                               |                    |                     |                  |       |             |                  |              |
| 15                                                                | EXN15T3HBCU  | 97.89%                        | 6-2.5%2+4-         | 80                  | 220              | 4.53% | 39 dB       | 235              | 17M          |
| 30                                                                | EXN30T3HBCU  | 98.23%                        | 6-2.5%2+4-         | 80                  | 220              | 2.76% | 39 dB       | 407              | 18M          |
| 45                                                                | EXN45T3HBCU  | 98.40%                        | 6-2.5%2+4-         | 80                  | 220              | 4.12% | 39 dB       | 509              | 19M          |
| 75                                                                | EXN75T3HBCU  | 98.60%                        | 6-2.5%2+4-         | 80                  | 220              | 5.61% | 44 dB       | 690              | 20M          |
| 112.5                                                             | EXN112T3HBCU | 98.74%                        | 6-2.5%2+4-         | 80                  | 220              | 3.76% | 44 dB       | 1146             | 21M          |
| 150                                                               | EXN150T3HBCU | 98.83%                        | 6-2.5%2+4-         | 80                  | 220              | 5.45% | 44 dB       | 1424             | 22M          |
| 225                                                               | EX225T3HBCU  | 98.94%                        | 6-2.5%2+4-         | 80                  | 220              | 6.9%  | 49 dB       | 1975             | 25J          |
| 300                                                               | EX300T68HBCU | 99.02%                        | 4-2.5%2+2-         | 80                  | 220              | 5.0%  | 56 dB       | 3705             | 30J          |
| 500                                                               | EX500T68HBCU | 99.14%                        | 4-2.5%2+2-         | 80                  | 220              | 4.8%  | 58 dB       | 4400             | 31J          |

[6] Not for construction, Contact your local Schneider Electric representative for certified prints.  
 [7] For enclosure styles, see Table 14.8 Enclosure Dimensions and Accessories, page 14-8

DOE 2016 Low Voltage Distribution Transformers designed for applications with harmonic loads.

Square D offers Delta - Wye 30°Phase Shift transformers which reconfigure the harmonic models and mitigate the harmful effects of triplens. UL Listed with the following K-ratings to handle excess heat created by harmonic wave forms, K4 and K13. Available with aluminum or copper windings and 150°C or 115°C Rise with 220C insulation system.

Table 14.5: EXN & EX Three Phase 60 Hz, 30° Phase Shift, 480 Delta to 208Y/120; UL Listed, K-RATED

| kVA                                                                                                      | Catalog No.    | Minimum Efficiency @ 35% 75°C | Full Capacity Taps | Degree C Temp. Rise | Insulation Class | %IZ   | Sound Level | Weight (lbs) [8] | Enclosure [9] |
|----------------------------------------------------------------------------------------------------------|----------------|-------------------------------|--------------------|---------------------|------------------|-------|-------------|------------------|---------------|
| <b>480 Delta Primary, 208Y/120 Secondary, Aluminum Windings, 150°C Rise, 220C Insulation, K13 Listed</b> |                |                               |                    |                     |                  |       |             |                  |               |
| 15                                                                                                       | EXN15T3HNLP    | 97.89%                        | 6-2.5%2+4-         | 150                 | 220              | 4.51% | 39 dB       | 195              | 17M           |
| 30                                                                                                       | EXN30T3HNLP    | 98.23%                        | 6-2.5%2+4-         | 150                 | 220              | 4.18% | 39 dB       | 336              | 18M           |
| 45                                                                                                       | EXN45T3HNLP    | 98.40%                        | 6-2.5%2+4-         | 150                 | 220              | 4.71% | 39 dB       | 400              | 19M           |
| 75                                                                                                       | EXN75T3HNLP    | 98.60%                        | 6-2.5%2+4-         | 150                 | 220              | 5.26% | 44 dB       | 580              | 20M           |
| 112.5                                                                                                    | EXN112T3HNLP   | 98.74%                        | 6-2.5%2+4-         | 150                 | 220              | 3.70% | 44 dB       | 802              | 21M           |
| 150                                                                                                      | EX150T3HNLP    | 98.83%                        | 6-2.5%2+4-         | 150                 | 220              | 3.00% | 44 dB       | 1825             | 25J           |
| 225                                                                                                      | EX225T3HNLP    | 98.94%                        | 6-2.5%2+4-         | 150                 | 220              | 3.30% | 49 dB       | 1975             | 25J           |
| <b>480 Delta Primary, 208Y/120 Secondary, Copper Windings, 150°C Rise, 220C Insulation, K13 Listed</b>   |                |                               |                    |                     |                  |       |             |                  |               |
| 15                                                                                                       | EXN15T3HCUNLP  | 97.89%                        | 6-2.5%2+4-         | 150                 | 220              | 4.96% | 39 dB       | 235              | 17M           |
| 30                                                                                                       | EXN30T3HCUNLP  | 98.23%                        | 6-2.5%2+4-         | 150                 | 220              | 3.06% | 39 dB       | 407              | 18M           |
| 45                                                                                                       | EXN45T3HCUNLP  | 98.40%                        | 6-2.5%2+4-         | 150                 | 220              | 4.41% | 39 dB       | 509              | 19M           |
| 75                                                                                                       | EXN75T3HCUNLP  | 98.60%                        | 6-2.5%2+4-         | 150                 | 220              | 5.56% | 44 dB       | 700              | 20M           |
| 112.5                                                                                                    | EXN112T3HCUNLP | 98.74%                        | 6-2.5%2+4-         | 150                 | 220              | 3.33% | 44 dB       | 1000             | 21M           |
| 150                                                                                                      | EX150T3HCUNLP  | 98.83%                        | 6-2.5%2+4-         | 150                 | 220              | 4.60% | 44 dB       | 1545             | 25J           |
| 225                                                                                                      | EX225T3HCUNLP  | 98.94%                        | 6-2.5%2+4-         | 150                 | 220              | 3.80% | 49 dB       | 1975             | 25J           |
| <b>480 Vac Delta Primary, 208Y/120 Secondary, Aluminum Winding, K4</b>                                   |                |                               |                    |                     |                  |       |             |                  |               |
| 15                                                                                                       | EXN15T3HNLP    | 97.89%                        | 6-2.5%2+4-         | 150                 | 220              | 4.30% | 39 dB       | 184              | 17M           |
| 30                                                                                                       | EXN30T3HNLP    | 98.23%                        | 6-2.5%2+4-         | 150                 | 220              | 3.15% | 39 dB       | 324              | 18M           |
| 45                                                                                                       | EXN45T3HNLP    | 98.40%                        | 6-2.5%2+4-         | 150                 | 220              | 4.13% | 39 dB       | 392              | 19M           |
| 75                                                                                                       | EXN75T3HNLP    | 98.60%                        | 6-2.5%2+4-         | 150                 | 220              | 5.21% | 44 dB       | 527              | 20M           |
| 112.5                                                                                                    | EXN112T3HNLP   | 98.74%                        | 6-2.5%2+4-         | 150                 | 220              | 3.80% | 44 dB       | 713              | 21M           |
| 150                                                                                                      | EXN150T3HNLP   | 98.83%                        | 6-2.5%2+4-         | 150                 | 220              | 3.37% | 44 dB       | 1012             | 22M           |
| <b>480 Vac Delta Primary, 208Y/120 Secondary, Copper Winding, K4</b>                                     |                |                               |                    |                     |                  |       |             |                  |               |
| 15                                                                                                       | EXN15T3HCUNLP  | 97.89%                        | 6-2.5%2+4-         | 150                 | 220              | 4.22% | 39 dB       | 219              | 17M           |
| 30                                                                                                       | EXN30T3HCUNLP  | 98.23%                        | 6-2.5%2+4-         | 150                 | 220              | 4.23% | 39 dB       | 358              | 18M           |
| 45                                                                                                       | EXN45T3HCUNLP  | 98.40%                        | 6-2.5%2+4-         | 150                 | 220              | 3.95% | 39 dB       | 412              | 19M           |
| 75                                                                                                       | EXN75T3HCUNLP  | 98.60%                        | 6-2.5%2+4-         | 150                 | 220              | 4.15% | 44 dB       | 548              | 20M           |
| 112.5                                                                                                    | EXN112T3HCUNLP | 98.74%                        | 6-2.5%2+4-         | 150                 | 220              | 3.52% | 44 dB       | 899              | 21M           |
| 150                                                                                                      | EXN150T3HCUNLP | 98.83%                        | 6-2.5%2+4-         | 150                 | 220              | 4.35% | 44 dB       | 1303             | 22M           |

[8] Not for construction, Contact your local Schneider Electric representative for certified prints.

[9] For enclosure styles, see Table 14.8 Enclosure Dimensions and Accessories, page 14-8

## DOE 2016 Energy Efficient Single Phase and Single Phase Watchdog

Table 14.6: EE Single-Phase 60 Hz, 120 / 240 Vac Secondary; cULus Listed

| kVA                                      | Catalog No. | Minimum Efficiency<br>@ 35% 75°C | Full Capacity Taps<br>[10]                     | Degree C Temp.<br>Rise | Insulation Class | %IZ  | Sound Level<br>dB | Weight (lbs)<br>[11] | Enclosure[12] |
|------------------------------------------|-------------|----------------------------------|------------------------------------------------|------------------------|------------------|------|-------------------|----------------------|---------------|
| 240 x 480 Vac Primary, Aluminum Windings |             |                                  |                                                |                        |                  |      |                   |                      |               |
| 15                                       | EE15S3H     | 97.70%                           | 480 Vac<br>6-2.5% 2+4-<br>240 Vac<br>3-5% 1+2- | 150                    | 220              | 6.1% | 45dB              | 215                  | 17D           |
| 25                                       | EE25S3H     | 98.00%                           |                                                | 150                    | 220              | 5.9% | 45dB              | 275                  | 17H           |
| 37.5                                     | EE37S3H     | 98.20%                           |                                                | 150                    | 220              | 6.1% | 45dB              | 340                  | 18H           |
| 50                                       | EE50S3H     | 98.30%                           |                                                | 150                    | 220              | 5.1% | 45dB              | 395                  | 18H           |
| 75                                       | EE75S3H     | 98.50%                           |                                                | 150                    | 220              | 5.7% | 50dB              | 619                  | 21D           |
| 100                                      | EE100S3H    | 98.60%                           |                                                | 150                    | 220              | 4.7% | 50dB              | 682                  | 22D           |
| 167                                      | EE167S3H    | 98.70%                           |                                                | 150                    | 220              | 3.9% | 55dB              | 982                  | 24D           |
| 250                                      | EE250S3H    | 98.80%                           |                                                | 150                    | 220              | 5.7% | 55dB              | 1060                 | 25D           |
| 333                                      | EE333S3H    | 98.90%                           |                                                | 150                    | 220              | 6.3% | 60dB              | 1854                 | 31D           |
| 600 Vac Primary, Aluminum Windings       |             |                                  |                                                |                        |                  |      |                   |                      |               |
| 15                                       | EE15S3534H  | 97.70%                           | 6-2.5%2+4-                                     | 150                    | 220              | 4.0  | 45dB              | 215                  | 17D           |
| 25                                       | EE25S3534H  | 98.00%                           | 6-2.5%2+4-                                     | 150                    | 220              | 4.3  | 45dB              | 275                  | 17H           |
| 37.5                                     | EE37S3534H  | 98.20%                           | 6-2.5%2+4-                                     | 150                    | 220              | 3.8  | 45dB              | 400                  | 18H           |
| 50                                       | EE50S3534H  | 98.30%                           | 6-2.5%2+4-                                     | 150                    | 220              | 4.2  | 45dB              | 450                  | 18H           |
| 75                                       | EE75S3534H  | 98.50%                           | 6-2.5%2+4-                                     | 150                    | 220              | 3.2  | 50dB              | 605                  | 21D           |
| 100                                      | EE100S3534H | 98.60%                           | 6-2.5%2+4-                                     | 150                    | 220              | 2.9  | 50dB              | 795                  | 22D           |
| 167                                      | EE167S3534H | 98.70%                           | 6-2.5%2+4-                                     | 150                    | 220              | 4.7  | 55dB              | 985                  | 24D           |
| 250                                      | EE250S3534H | 98.80%                           | 6-2.5%2+4-                                     | 150                    | 220              | —    | 55dB              | 1065                 | 25D           |
| 333                                      | EE333S3534H | 98.90%                           | 6-2.5%2+4-                                     | 150                    | 220              | —    | 60dB              | 1865                 | 31D           |
| 208 Vac Primary, Aluminum Windings       |             |                                  |                                                |                        |                  |      |                   |                      |               |
| 15                                       | EE15S60H    | 97.70%                           | 2 - 5% FCBN                                    | 150                    | 220              | 4.3  | 45dB              | 200                  | 17D           |
| 25                                       | EE25S60H    | 98.00%                           | 2 - 5% FCBN                                    | 150                    | 220              | 4.1  | 45dB              | 275                  | 17H           |
| 37.5                                     | EE37S60H    | 98.20%                           | 2 - 5% FCBN                                    | 150                    | 220              | 3.6  | 45dB              | 397                  | 18H           |
| 50                                       | EE50S60H    | 98.30%                           | 2 - 5% FCBN                                    | 150                    | 220              | 5.7  | 45dB              | 420                  | 18H           |
| 75                                       | EE75S60H    | 98.50%                           | 2 - 5% FCBN                                    | 150                    | 220              | 3.6  | 50dB              | 621                  | 21D           |
| 100                                      | EE100S60H   | 98.60%                           | 2 - 5% FCBN                                    | 150                    | 220              | 6.3  | 50dB              | 795                  | 22D           |
| 167                                      | EE167S60H   | 98.70%                           | 2 - 5% FCBN                                    | 150                    | 220              | 4.2  | 55dB              | 985                  | 24D           |
| 277 Vac Primary, Aluminum Windings       |             |                                  |                                                |                        |                  |      |                   |                      |               |
| 15                                       | EE15S61H    | 97.70%                           | 2 - 5% FCBN                                    | 150                    | 220              | 5.8  | 45dB              | 225                  | 17D           |
| 25                                       | EE25S61H    | 98.00%                           | 2 - 5% FCBN                                    | 150                    | 220              | 5.8  | 45dB              | 285                  | 17H           |
| 37.5                                     | EE37S61H    | 98.20%                           | 2 - 5% FCBN                                    | 150                    | 220              | 5.7  | 45dB              | 410                  | 18H           |
| 50                                       | EE50S61H    | 98.30%                           | 2 - 5% FCBN                                    | 150                    | 220              | 5.1  | 45dB              | 460                  | 18H           |
| 75                                       | EE75S61H    | 98.50%                           | 2 - 5% FCBN                                    | 150                    | 220              | 5.6  | 50dB              | 630                  | 21D           |
| 100                                      | EE100S61H   | 98.60%                           | 2 - 5% FCBN                                    | 150                    | 220              | 6.5  | 50dB              | 795                  | 22D           |
| 167                                      | EE167S61H   | 98.70%                           | 2 - 5% FCBN                                    | 150                    | 220              | 4.9  | 55dB              | 995                  | 24D           |

Table 14.7: EE Single Phase Watchdog Transformers: 60 Hz, cULus Listed

| kVA                                                                      | Catalog No. | Minimum<br>Efficiency @ 35%<br>75°C | Full Capacity Taps                             | Degree C<br>Temp. Rise | Insulation<br>Class | %IZ  | Sound<br>Level dB | Weight<br>(lbs)[11] | Enclosure[12] |
|--------------------------------------------------------------------------|-------------|-------------------------------------|------------------------------------------------|------------------------|---------------------|------|-------------------|---------------------|---------------|
| <b>240 x 480 Vac Primary, 120 / 240 Vac Secondary, Aluminum Windings</b> |             |                                     |                                                |                        |                     |      |                   |                     |               |
| 15                                                                       | EE15S3HF    | 97.70%                              | 480 Vac<br>6-2.5% 2+4-<br>240 Vac<br>3-5% 1+2- | 115                    | 220                 | 3.5% | 45dB              | 275                 | 17D           |
| 25                                                                       | EE25S3HF    | 98.00%                              |                                                | 115                    | 220                 | 4.0% | 45dB              | 340                 | 18H           |
| 37.5                                                                     | EE37S3HF    | 98.20%                              |                                                | 115                    | 220                 | 3.7% | 45dB              | 395                 | 18H           |
| 50                                                                       | EE50S3HF    | 98.30%                              |                                                | 115                    | 220                 | 3.7% | 45dB              | 620                 | 21D           |
| 75                                                                       | EE75S3HF    | 98.50%                              |                                                | 115                    | 220                 | 3.5% | 50dB              | 685                 | 22D           |
| 100                                                                      | EE100S3HF   | 98.60%                              |                                                | 115                    | 220                 | 3.5% | 50dB              | 985                 | 24D           |
| 15                                                                       | EE15S3HB    | 97.70%                              |                                                | 80                     | 220                 | 1.7% | 45dB              | 280                 | 17D           |
| 25                                                                       | EE25S3HB    | 98.00%                              |                                                | 80                     | 220                 | 3.9% | 45dB              | 345                 | 18H           |
| 37.5                                                                     | EE37S3HB    | 98.20%                              |                                                | 80                     | 220                 | 3.7% | 45dB              | 400                 | 18H           |
| 50                                                                       | EE50S3HB    | 98.30%                              |                                                | 80                     | 220                 | 3.6% | 45dB              | 625                 | 21D           |
| 75                                                                       | EE75S3HB    | 98.50%                              |                                                | 80                     | 220                 | 3.4% | 50dB              | 690                 | 22D           |
| 100                                                                      | EE100S3HB   | 98.60%                              |                                                | 80                     | 220                 | 3.4% | 50dB              | 995                 | 24D           |

Other primary and secondary combinations are available via the Schneider Electric Product Configurator. Contact your local Schneider Electric representative for more information.

[10] FCBN = Full Capacity Below Normal.

[11] Not for construction, Contact your local Schneider Electric representative for certified prints.

[12] For enclosure styles, see Table 14.8 Enclosure Dimensions and Accessories, page 14-8

## Enclosures and Accessories



Style D and H—Type 2 Rated  
Converts to Type 3R with Weathershield



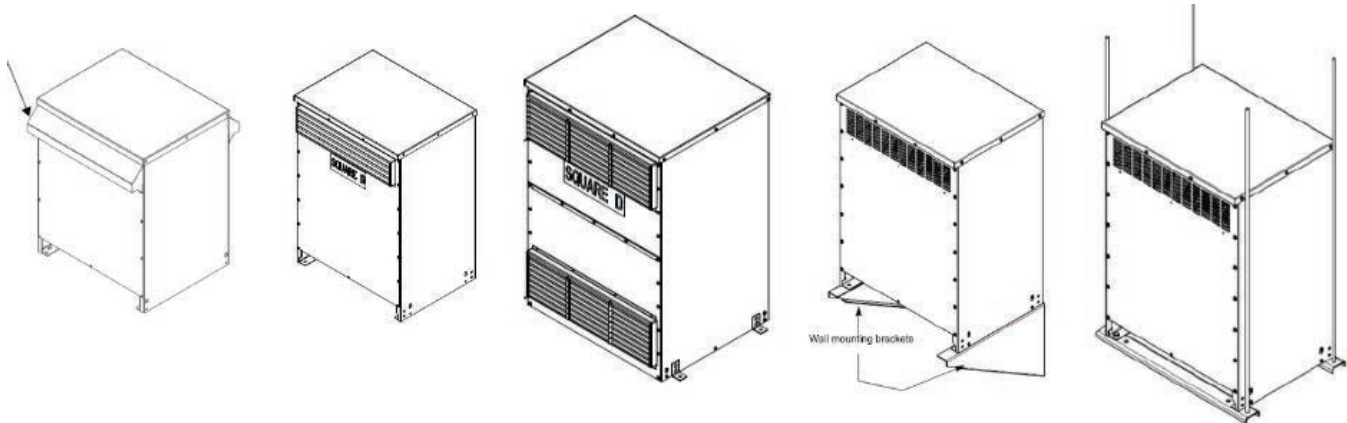
Style M—Type 2 Rated  
Converts to Type 3R  
with Weathershield



Style J—Type 1 Rated  
Converts to Type 2 with Drip Shield  
Converts to Type 3R with Weathershield

**Table 14.8: Enclosure Dimensions and Accessories**

| Enclosure Number/<br>Style |   | Height |      | Width <sup>[13]</sup> |      | Depth |      | Mounting | Weathershield | Wall Mounting<br>Bracket <sup>[14]</sup> | Ceiling Mounting<br>Bracket <sup>[15]</sup> | Drip Shield |
|----------------------------|---|--------|------|-----------------------|------|-------|------|----------|---------------|------------------------------------------|---------------------------------------------|-------------|
|                            |   | in.    | mm   | in.                   | mm   | in.   | mm   |          |               |                                          |                                             |             |
| 17                         | D | 27     | 686  | 20                    | 508  | 16    | 406  | Floor    | WS363         | WMB361362                                | CMB363                                      | —           |
|                            | H | 37     | 940  | 20                    | 508  | 16    | 406  | Floor    | WS363         | WMB361362                                | CMB363                                      | —           |
| 18                         | D | 30     | 762  | 20                    | 508  | 20    | 508  | Floor    | WS363         | WMB363364                                | CMB363                                      | —           |
|                            | H | 37     | 940  | 20                    | 508  | 20    | 508  | Floor    | WS363         | WMB363364                                | CMB363                                      | —           |
| 19                         | D | 30     | 762  | 30                    | 762  | 20    | 508  | Floor    | WS364         | WMB363364                                | CMB364                                      | —           |
| 20                         | D | 37     | 940  | 30                    | 762  | 20    | 508  | Floor    | WS364         | WMB363364                                | CMB364                                      | —           |
| 21                         | D | 37     | 940  | 30                    | 762  | 24    | 610  | Floor    | WS364         | —                                        | CMB364                                      | —           |
| 22                         | D | 43.8   | 1111 | 32                    | 813  | 27    | 686  | Floor    | WS380         | —                                        | CMB380                                      | —           |
| 24                         | D | 49.5   | 1257 | 35                    | 889  | 28.5  | 724  | Floor    | WS381         | —                                        | CMB381                                      | —           |
| 25                         | D | 49.5   | 1257 | 41                    | 1041 | 32    | 813  | Floor    | WS382         | —                                        | —                                           | —           |
| 26                         | D | 57.5   | 1461 | 41                    | 1041 | 32    | 813  | Floor    | WS382         | —                                        | —                                           | —           |
| 28                         | D | 60     | 1524 | 56                    | 1422 | 36    | 914  | Floor    | WS370A        | —                                        | —                                           | —           |
| 29                         | D | 68     | 1727 | 56                    | 1422 | 36    | 914  | Floor    | WS370A        | —                                        | —                                           | —           |
| 30                         | D | 71     | 1803 | 48                    | 1219 | 36    | 914  | Floor    | WS383         | —                                        | —                                           | —           |
| 31                         | D | 74     | 1880 | 56                    | 1422 | 40.5  | 1029 | Floor    | WS384         | —                                        | —                                           | —           |
| 17                         | M | 23.98  | 609  | 21.50                 | 546  | 21.18 | 538  | Floor    | 7400WS17M     | 7400WMB17M                               | 7400CMB17M                                  | —           |
| 18                         | M | 28.31  | 719  | 25.51                 | 648  | 24.69 | 627  | Floor    | 7400WS18-M19M | 7400WMB18M19M20-M                        | 7400CMB18M19M20M                            | —           |
| 19                         | M | 29.33  | 745  | 25.51                 | 648  | 25.94 | 659  | Floor    | 7400WS18-M19M | 7400WMB18M19M20-M                        | 7400CMB18M19M20M                            | —           |
| 20                         | M | 33.50  | 851  | 30.08                 | 764  | 27.44 | 697  | Floor    | 7400WS20M     | 7400WMB18M19M20-M                        | 7400CMB18M19M20M                            | —           |
| 21                         | M | 37.52  | 953  | 31.30                 | 795  | 28.43 | 722  | Floor    | 7400WS21M     | n/a                                      | 7400CMB21M                                  | —           |
| 22                         | M | 40.59  | 1031 | 33.66                 | 855  | 32.56 | 827  | Floor    | 7400WS22M     | n/a                                      | 7400CMB22M                                  | —           |
| 24                         | — | —      | —    | —                     | —    | —     | —    | —        | —             | —                                        | —                                           | —           |
| 25                         | J | 57.5   | 1461 | 40.1                  | 1019 | 32.75 | 832  | Floor    | 7400WS25J     | —                                        | —                                           | 7400DS25J   |
| 30                         | J | 71     | 1803 | 48.25                 | 1226 | 37.9  | 963  | Floor    | 7400WS30J     | —                                        | —                                           | 7400DS30J   |
| 31                         | J | 76     | 1930 | 56                    | 1422 | 44.5  | 1130 | Floor    | 7400WS31J     | —                                        | —                                           | 7400DS31J   |



**New Optional Floor Mounting Kit — Enclosures M and J**

<sup>[13]</sup> These dimensions are not for construction. Contact your local Schneider Electric.

<sup>[14]</sup> Wall mounting brackets are used with units weighing no more than 700 lbs.

<sup>[15]</sup> Ceiling mounting brackets are used with units weighing no more than 1200 lbs.



**Table 14.9: Mechanical Lug Kits**

| Catalog No.                                                                                          | Lugs Per Kit | Wire Range                               | Cap Screws  | Current Range  | Grounding Lugs per Kit | Wire Range             | Bonding Lugs per Kit | Wire Range         |
|------------------------------------------------------------------------------------------------------|--------------|------------------------------------------|-------------|----------------|------------------------|------------------------|----------------------|--------------------|
| Single-Phase Primary, Single-Phase Secondary, Three-Phase Delta Primary, Three-Phase Delta Secondary |              |                                          |             |                |                        |                        |                      |                    |
| DASKP100                                                                                             | 3            | 1/0–14 STR                               | 1/4 x 1 in. | Up to 100 A    | Not applicable         | Not applicable         | Not applicable       | Not applicable     |
| DASKP250                                                                                             | 3            | 350 kcmil–6 STR                          | 3/8 x 2 in. | 101 to 250 A   |                        |                        |                      |                    |
| DASKP400                                                                                             | 3            | 600 kcmil–4 STR<br>(2) 250 kcmil–1/0 STR | 3/8 x 2 in. | 201 to 400 A   |                        |                        |                      |                    |
| DASKP600                                                                                             | 6            | 600 kcmil–4 STR<br>(2) 250 kcmil–1/0 STR | 3/8 x 2 in. | 601 to 800 A   |                        |                        |                      |                    |
| DASKP1000                                                                                            | 9            | 600 kcmil–2 STR                          | 3/8 x 2 in. | 601 to 800 A   |                        |                        |                      |                    |
| DASKP1200                                                                                            | 12           | 600 kcmil–2 STR                          | 3/8 x 2 in. | 801 to 1200 A  |                        |                        |                      |                    |
| Single-Phase Primary and Secondary, Three-Phase Wye Secondary, Three-Phase Delta with Center Tap     |              |                                          |             |                |                        |                        |                      |                    |
| DASKGS100                                                                                            | 5            | 1/0–14 STR                               | 1/4 x 1 in. | Up to 100 A    | 1                      | (4) 2/0 to 14 STR      | 1                    | 2 to 14 STR        |
| DASKGS250                                                                                            | 5            | 350 kcmil–6 STR                          | 3/8 x 2 in. | 101 to 250 A   | 1                      | (4) 2/0 to 14 STR      | 1                    | 2 to 14 STR        |
| DASKGS400                                                                                            | 5            | 600 kcmil–4 STR<br>(2) 250 kcmil–1/0 STR | 3/8 x 2 in. | 201 to 400 A   | 1                      | (4) 2/0 to 14 STR      | 1                    | 1/0 to 14 STR      |
| DASKGS600                                                                                            | 10           | 600 kcmil–2 STR                          | 3/8 x 2 in. | 601 to 800 A   | 1                      | (4) 350 kcmil to 6 STR | 1                    | 250 kcmil to 6 STR |
| DASKGS1000                                                                                           | 15           | 600 kcmil–2 STR                          | 3/8 x 2 in. | 601 to 800 A   | 1                      | (4) 350 kcmil to 6 STR | 1                    | 250 kcmil to 6 STR |
| DASKGS1200                                                                                           | 20           | 600 kcmil–2 STR                          | 3/8 x 2 in. | 801 to 1200 A  | 1                      | (4) 350 kcmil to 6 STR | 1                    | 250 kcmil to 6 STR |
| DASKGS2000                                                                                           | 25           | 600 kcmil–2 STR                          | 3/8 x 2 in. | 1201 to 2000 A | 1                      | (4) 350 kcmil to 6 STR | 1                    | 250 kcmil to 6 STR |

Lugs are not supplied with transformer units. They must be purchased separately.

**Table 14.10: Compression Lug Kits**

| Transformer kVA Sizes | Kit Catalog No. | Terminal Lugs |              | Aluminum or Copper Conductor Range (AWG or kcmil) | Hardware Included |               |
|-----------------------|-----------------|---------------|--------------|---------------------------------------------------|-------------------|---------------|
|                       |                 | Qty.          | Catalog No.  |                                                   | Qty.              | Cap Screws    |
| 15–37 ½ 1Ø            | VCELSK1         | 8             | VCEL02114S1  | #8–1/0                                            | 8                 | 1/4 x 1 in.   |
| 15–45 3Ø              |                 | 5             | VCEL030516H1 | #4–300 kcmil                                      | 1                 | 1/4 x 2 in.   |
| 50–75 1Ø              | VCELSK2         | 13            | VCEL030516H1 | #4–300 kcmil                                      | 8                 | 1/4 x 1 in.   |
| 75–112 ½ 3Ø           |                 |               | VCEL030516H1 | #4–300 kcmil                                      | 3                 | 1/4 x 3/4 in. |
| 100–167 1Ø            | VCELSK3         | 3             | VCEL07512H1  | 500–750 kcmil Al<br>500 kcmil Cu                  | 16                | 3/8 x 2 in.   |
| 150–300 3Ø            |                 | 26            | VCEL07512H1  | 500–750 kcmil Al<br>500 kcmil Cu                  | 21                | 3/8 x 2 in.   |
| 500 3Ø                | VCELSK4         | 34            | VCEL07512H1  | 500–750 kcmil Al<br>500 kcmil Cu                  | 21                | 3/8 x 2 in.   |

Schneider Electric Low Voltage Transformers have been qualified to the site-specific requirements of the following listed model building code and/or standard. (International Building Code, California Building Code, Uniformed Building Code). Qualification based on tri-axial shake table test results conducted in accordance with the AC156 test protocol3 (Acceptance Criteria for Seismic Qualification Testing of Nonstructural Components).

- Enclosure 1A to 11A, 12C to 16C, 12B to 15B (Resin Encapsulated Transformers)
- Enclosure 17D to 31D, 17H to 18H, 17K to 22K, 25J to 31J (Ventilated Transformers)
- Enclosure 17K to 20K with wall mounting bracket (Ventilated Transformers)
- Enclosure 17E to 31E (Non-ventilated Transformers)
- Enclosure MPZ A, AA, B, BB, C, CC (MPZB)

Product is Listed for installation in Hospitals State of California—OSHPD Special Seismic Certification Preapproval OSP-0023-10.

| Accessory Tables—required for Building Inspection—OSHPD |                                                          |                     |
|---------------------------------------------------------|----------------------------------------------------------|---------------------|
| OSP Label Catalog Number                                | Products                                                 | Enclosure Style     |
| 7400CAOSHPDABC                                          | Resin encapsulated, buck boost transformers              | Style A, B, C       |
| 7400CAOSHPDDH                                           | Ventilated Type EE, drive isolation, auto-transformers   | Style D, H          |
| 7400CAOSHPDF                                            | Low voltage 750 and 1000 kVA Type EE                     | Style F             |
| 7400CAOSHPDJ                                            | Ventilated Type EX                                       | Style J             |
| 7400CAOSHPDK                                            | Ventilated Type EX                                       | Style K             |
| 7400CAOSHPDKO                                           | Ventilated Type EX, wall-mounted using Square D brackets | Style K with WMB    |
| 7400CAOSHPDMPZB                                         | Mini Power Zone Bolt-on                                  | A, AA, B, BB, C, CC |



### Sealed, Mini Power-Zone™ Unit Substation

The Square D™ brand Mini Power-Zone™ unit substation from Schneider Electric provides the answer to requirements for a compact unit substation at low amperage ratings.. This complete package yields considerable savings on floor space, installation, and overall cost.

**NOTE:** Mini Power-Zone unit substations are UL 1062 Listed File E92978 design in a Type 3R enclosure allowing for indoor or outdoor applications. Designed for wall-mounting, the unit substation leverages Schneider Electric components integrated into one device..

- Epoxy resin encapsulated low voltage transformer
- H-frame main circuit breaker
- Secondary main circuit breaker
- Square D panel board or load center allowing for QO™ or QOB™ branch circuit breakers

*New!*

New MPU solution leverages the latest load center interiors, giving customers more flexibility for branch circuit requirements. Additionally design with a tiered dead front construction. The first dead front allows access to the secondary main circuit breaker, distribution panel board, and the second dead front. The second dead front allows access to the primary main circuit breaker and incoming voltage connection points.

Table 14.11: Distribution System Square D Load Centers (allowing plug-on QO circuit breakers only)

| kVA                                                                                | Catalog No. | Full Capacity Taps <sup>[16]</sup> | Enclosure | Weight (lbs) | Primary Main Circuit Breaker Rating (A) | Secondary Main Circuit Breaker Rating (A) | Spaces for Branch Circuit Breakers |
|------------------------------------------------------------------------------------|-------------|------------------------------------|-----------|--------------|-----------------------------------------|-------------------------------------------|------------------------------------|
| <b>Single-Phase Unit Substation Input: 480 Vac, 18 kAIC; Output: 120 / 240 Vac</b> |             |                                    |           |              |                                         |                                           |                                    |
| 3                                                                                  | MPU3S40F    | 2-5% FCBN                          | MPU-A     | 85           | 15                                      | 15                                        | 10                                 |
| 5                                                                                  | MPU5S40F    | 2-5% FCBN                          | MPU-A     | 135          | 15                                      | 30                                        | 10                                 |
| 7.5                                                                                | MPU7S40F    | 2-5% FCBN                          | MPU-A     | 145          | 20                                      | 40                                        | 10                                 |
| 10                                                                                 | MPU10S40F   | 2-5% FCBN                          | MPU-A     | 220          | 30                                      | 60                                        | 10                                 |
| 15                                                                                 | MPU15S40F   | 2-5% FCBN                          | MPU-B     | 350          | 60                                      | 80                                        | 22                                 |
| 25                                                                                 | MPU25S40F   | 2-5% FCBN                          | MPU-B     | 425          | 100                                     | 125                                       | 22                                 |
| <b>Three-Phase Unit Substation Input: 480 Vac 18 kAIC; Output: 208Y / 120 Vac</b>  |             |                                    |           |              |                                         |                                           |                                    |
| 15                                                                                 | MPU15T2F    | 2-5% FCBN                          | MPU-C     | 510          | 40                                      | 60                                        | 27                                 |
| 22.5                                                                               | MPU22T2F    | 2-5% FCBN                          | MPU-C     | 670          | 60                                      | 80                                        | 27                                 |
| 30                                                                                 | MPU30T2F    | 2-5% FCBN                          | MPU-C     | 695          | 90                                      | 100                                       | 27                                 |

Table 14.12: Bolt-On Circuit Breakers

| kVA                                                                         | Catalog No. |              |               |               | Full Capacity Taps <sup>[16]</sup> | Enclosure | Weight (lbs) | Primary Main Circuit Breaker Rating (A) | Secondary Main Circuit Breaker Rating (A) | Spaces for Branch Circuit Breakers |
|-----------------------------------------------------------------------------|-------------|--------------|---------------|---------------|------------------------------------|-----------|--------------|-----------------------------------------|-------------------------------------------|------------------------------------|
|                                                                             | 18 kAIC     |              | 25 kAIC       | 65 kAIC       |                                    |           |              |                                         |                                           |                                    |
| Single-Phase Unit Substation Input: 480 Vac, 18 kAIC; Output: 120 / 240 Vac |             |              |               |               |                                    |           |              |                                         |                                           |                                    |
| 3                                                                           | MPZB3S40F   | MPZB3S40FSS  | MPZB3S40F25K  | MPZB3S40F65K  | 2-5% FCBN                          | MPZ-AA    | 85           | 15                                      | 15                                        | 16                                 |
| 5                                                                           | MPZB5S40F   | MPZB5S40FSS  | MPZB5S40F25K  | MPZB5S40F65K  | 2-5% FCBN                          | MPZ-AA    | 135          | 15                                      | 30                                        | 16                                 |
| 7.5                                                                         | MPZB7S40F   | MPZB7S40FSS  | MPZB7S40F25K  | MPZB7S40F65K  | 2-5% FCBN                          | MPZ-AA    | 145          | 20                                      | 40                                        | 16                                 |
| 10                                                                          | MPZB10S40F  | MPZB10S40FSS | MPZB10S40F25K | MPZB10S40F65K | 2-5% FCBN                          | MPZ-AA    | 220          | 30                                      | 60                                        | 16                                 |
| 15                                                                          | MPZB15S40F  | MPZB15S40FSS | MPZB15S40F25K | MPZB15S40F65K | 2-5% FCBN                          | MPZ-BB    | 350          | 60                                      | 80                                        | 28                                 |
| 25                                                                          | MPZB25S40F  | MPZB25S40FSS | MPZB25S40F25K | MPZB25S40F65K | 2-5% FCBN                          | MPZ-BB    | 425          | 100                                     | 125                                       | 28                                 |
| Three-Phase Unit Substation Input: 480 Vac, 18 kAIC; Output 208Y / 120 Vac  |             |              |               |               |                                    |           |              |                                         |                                           |                                    |
| 15                                                                          | MPZB15T2F   | MPZB15T2FSS  | MPZB15T2F25K  | MPZB15T2F65K  | 2-5% FCBN                          | MPZ-CC    | 510          | 40                                      | 60                                        | 27                                 |
| 22.5                                                                        | MPZB22T2F   | MPZB22T2FSS  | MPZB22T2F25K  | MPZB22T2F65K  | 2-5% FCBN                          | MPZ-CC    | 670          | 60                                      | 80                                        | 27                                 |
| 30                                                                          | MPZB30T2F   | MPZB30T2FSS  | MPZB30T2F25K  | MPZB30T2F65K  | 2-5% FCBN                          | MPZ-CC    | 695          | 90                                      | 100                                       | 27                                 |

Table 14.13: Enclosure Dimensions and Accessories

| Enclosure Number/Style |    | Height |      | Width |     | Depth |     | Mounting |
|------------------------|----|--------|------|-------|-----|-------|-----|----------|
|                        |    | in.    | mm   | in.   | mm  | in.   | mm  |          |
| MPU                    | A  | 32.9   | 836  | 14.0  | 356 | 11.8  | 300 | Wall     |
| MPU                    | B  | 43.2   | 1097 | 21.0  | 533 | 13.5  | 343 | Wall     |
| MPU                    | C  | 45.2   | 1148 | 27.4  | 696 | 13.5  | 343 | Wall     |
| MPZ                    | BB | 51.1   | 1298 | 21.4  | 544 | 13.5  | 343 | Wall     |
| MPZ                    | C  | 45.2   | 1148 | 27.4  | 696 | 13.5  | 343 | Wall     |
| MPZ                    | CC | 48.6   | 1234 | 27.4  | 696 | 13.5  | 343 | Wall     |

**NOTE:** Dimensions should not be used for construction. Contact your local Schneider Electric representative for certified prints.  
FCBN = Full Capacity Below Normal

[16] FCBN = Full Capacity Below Normal.

## Resin Encapsulated Three and Single Phase Transformers

**Table 14.14: Resin Encapsulated Three and Single Phase Transformers**

| kVA                                                                                      | Type 3R STD |                              |                           | Type 3R 304 Stainless |                              |                           | Type 4X 304 Stainless |                              |                           |                                    |                  |                  |
|------------------------------------------------------------------------------------------|-------------|------------------------------|---------------------------|-----------------------|------------------------------|---------------------------|-----------------------|------------------------------|---------------------------|------------------------------------|------------------|------------------|
|                                                                                          | Catalog No. | Weight (lbs) <sup>[17]</sup> | Enclosure <sup>[18]</sup> | Catalog No.           | Weight (lbs) <sup>[17]</sup> | Enclosure <sup>[19]</sup> | Catalog No.           | Weight (lbs) <sup>[17]</sup> | Enclosure <sup>[19]</sup> | Full Capacity Taps <sup>[20]</sup> | Deg C Temp. Rise | Insulation Class |
| <b>Three Phase—480 Vac Delta Primary 208Y/120 Vac Secondary, 60 Hz; UL/cULus Listed</b>  |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 3                                                                                        | 3T2F        | 120                          | 12C                       | 3T2SS                 | 120                          | 12C                       | 4X3T2FSS              | 165                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 6                                                                                        | 6T2F        | 145                          | 12C                       | 6T2SS                 | 145                          | 12C                       | 4X6T2FSS              | 195                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 9                                                                                        | 9T2F        | 235                          | 14C                       | 9T2SS                 | 235                          | 14C                       | 4X9T2FSS              | 290                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 15                                                                                       | 15T2F       | 300                          | 14C                       | 15T2SS                | 300                          | 14C                       | 4X15T2FSS             | 350                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 30                                                                                       | 30T2F       | 660                          | 16C                       | 30T2SS                | 660                          | 16C                       | 4X30T2FSS             | 850                          | 55X                       | 2-5%FCBN                           | 115              | 180              |
| <b>Three Phase—480 Vac Delta Primary 240 Vac Delta Secondary, 60 Hz; UL/cULus Listed</b> |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 3                                                                                        | 3T5F        | 120                          | 12C                       | 3T5SS                 | 120                          | 12C                       | 4X3T5FSS              | 165                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 6                                                                                        | 6T5F        | 145                          | 12C                       | 6T5SS                 | 145                          | 12C                       | 4X6T5FSS              | 195                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 9                                                                                        | 9T75F       | 235                          | 14C                       | 9T75SS                | 235                          | 14C                       | 4X9T75FSS             | 290                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 15                                                                                       | 15T75F      | 300                          | 14C                       | 15T75SS               | 300                          | 14C                       | 4X15T75FSS            | 350                          | 54X                       | 2-5%FCBN                           | 115              | 180              |
| 30                                                                                       | 30T75F      | 660                          | 16C                       | 30T75SS               | 660                          | 16C                       | 4X30T75FSS            | 850                          | 55X                       | 2-5%FCBN                           | 115              | 180              |
| <b>Single Phase—240 x 480 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed</b>  |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 1                                                                                        | 1S1F        | 21.2                         | 7A                        | 1S1FSS                | 21.2                         | 7A                        | 4X1S1FSS              | 48                           | 51X                       | None                               | 115              | 180              |
| 1.5                                                                                      | 1.5S1F      | 30.1                         | 8A                        | 1.5S1FSS              | 30.1                         | 8A                        | 4X1.5S1FSS            | 55                           | 51X                       | None                               | 115              | 180              |
| 2                                                                                        | 2S1F        | 39.1                         | 9A                        | 2S1FSS                | 39.1                         | 9A                        | 4X2S1FSS              | 55                           | 51X                       | None                               | 115              | 180              |
| 3                                                                                        | 3S1F        | 60                           | 10A                       | 3S1FSS                | 60                           | 10A                       | 4X3S1FSS              | 75                           | 52X                       | None                               | 115              | 180              |
| 5                                                                                        | 5S1F        | 115                          | 13B                       | 5S1FSS                | 115                          | 13B                       | 4X5S1FSS              | 125                          | 52X                       | None                               | 115              | 180              |
| 7.5                                                                                      | 7S1F        | 135                          | 13B                       | 7S1FSS                | 135                          | 13B                       | 4X7S1FSS              | 150                          | 52X                       | None                               | 115              | 180              |
| 10                                                                                       | 10S1F       | 165                          | 13B                       | 10S1FSS               | 165                          | 13B                       | 4X10S1FSS             | 180                          | 52X                       | None                               | 115              | 180              |
| 15                                                                                       | 15S1F       | 225                          | 15B                       | 15S1FSS               | 225                          | 15B                       | 4X15S1FSS             | 390                          | 53X                       | None                               | 115              | 180              |
| 25                                                                                       | 25S1F       | 300                          | 15B                       | 25S1FSS               | 300                          | 15B                       | 4X25S1FSS             | 450                          | 53X                       | None                               | 115              | 180              |
| <b>Single Phase—480 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed</b>        |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 1                                                                                        | 1S40F       | 21.2                         | 7A                        | 1S40FSS               | 21.2                         | 7A                        | 4X1S40FSS             | 48                           | 51X                       | 2-5%FCBN                           | 115              | 180              |
| 1.5                                                                                      | 1.5S40F     | 30.1                         | 8A                        | 1.5S40FSS             | 30.1                         | 8A                        | 4X1.5S40FSS           | 55                           | 51X                       | 2-5%FCBN                           | 115              | 180              |
| 2                                                                                        | 2S40F       | 39.1                         | 9A                        | 2S40FSS               | 39.1                         | 9A                        | 4X2S40FSS             | 55                           | 51X                       | 2-5%FCBN                           | 115              | 180              |
| 3                                                                                        | 3S40F       | 60                           | 10A                       | 3S40FSS               | 60                           | 10A                       | 4X3S40FSS             | 75                           | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 5                                                                                        | 5S40F       | 115                          | 13B                       | 5S40FSS               | 115                          | 13B                       | 4X5S40FSS             | 125                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 7.5                                                                                      | 7S40F       | 135                          | 13B                       | 7S40FSS               | 135                          | 13B                       | 4X7S40FSS             | 150                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 10                                                                                       | 10S40F      | 165                          | 13B                       | 10S40FSS              | 165                          | 13B                       | 4X10S40FSS            | 180                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 15                                                                                       | 15S40F      | 225                          | 15B                       | 15S40FSS              | 225                          | 15B                       | 4X15S40FSS            | 390                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| 25                                                                                       | 25S40F      | 300                          | 15B                       | 25S40FSS              | 300                          | 15B                       | 4X25S40FSS            | 450                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| <b>Single Phase—600 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed</b>        |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 1                                                                                        | 1S51F       | 21.2                         | 7A                        | 1S51FSS               | 21.2                         | 7A                        | 4X1S51FSS             | 48                           | 51X                       | None                               | 115              | 180              |
| 1.5                                                                                      | 1.5S51F     | 30.1                         | 8A                        | 1.5S51FSS             | 30.1                         | 8A                        | 4X1.5S51FSS           | 55                           | 51X                       | None                               | 115              | 180              |
| 2                                                                                        | 2S51F       | 39.1                         | 9A                        | 2S51FSS               | 39.1                         | 9A                        | 4X2S51FSS             | 55                           | 51X                       | None                               | 115              | 180              |
| 3                                                                                        | 3S4F        | 60                           | 10A                       | 3S4FSS                | 60                           | 10A                       | 4X3S4FSS              | 75                           | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 5                                                                                        | 5S4F        | 115                          | 13B                       | 5S4FSS                | 115                          | 13B                       | 4X5S4FSS              | 125                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 7.5                                                                                      | 7S4F        | 135                          | 13B                       | 7S4FSS                | 135                          | 13B                       | 4X7S4FSS              | 150                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 10                                                                                       | 10S4F       | 165                          | 13B                       | 10S4FSS               | 165                          | 13B                       | 4X10S4FSS             | 180                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 15                                                                                       | 15S4F       | 225                          | 15B                       | 15S4FSS               | 225                          | 15B                       | 4X15S4FSS             | 390                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| 25                                                                                       | 25S4F       | 300                          | 15B                       | 25S4FSS               | 300                          | 15B                       | 4X25S4FSS             | 450                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| <b>Single Phase—208 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed</b>        |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 1                                                                                        | 1S7F        | 21.2                         | 7A                        | 1S7FSS                | 21.2                         | 7A                        | 4X1S7FSS              | 48                           | 51X                       | None                               | 115              | 180              |
| 1.5                                                                                      | 1.5S7F      | 30.1                         | 8A                        | 1.5S7FSS              | 30.1                         | 8A                        | 4X1.5S7FSS            | 55                           | 51X                       | None                               | 115              | 180              |
| 2                                                                                        | 2S7F        | 39.1                         | 9A                        | 2S7FSS                | 39.1                         | 9A                        | 4X2S7FSS              | 55                           | 51X                       | None                               | 115              | 180              |
| 3                                                                                        | 3S60F       | 60                           | 10A                       | 3S60FSS               | 60                           | 10A                       | 4X3S60FSS             | 75                           | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 5                                                                                        | 5S60F       | 115                          | 13B                       | 5S60FSS               | 115                          | 13B                       | 4X5S60FSS             | 125                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 7.5                                                                                      | 7S60F       | 135                          | 13B                       | 7S60FSS               | 135                          | 13B                       | 4X7S60FSS             | 150                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 10                                                                                       | 10S60F      | 165                          | 13B                       | 10S60FSS              | 165                          | 13B                       | 4X10S60FSS            | 180                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 15                                                                                       | 15S60F      | 225                          | 15B                       | 15S60FSS              | 225                          | 15B                       | 4X15S60FSS            | 390                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| 25                                                                                       | 25S60F      | 300                          | 15B                       | 25S60FSS              | 300                          | 15B                       | 4X25S60FSS            | 450                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| <b>Single Phase—277 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed</b>        |             |                              |                           |                       |                              |                           |                       |                              |                           |                                    |                  |                  |
| 1                                                                                        | 1S8F        | 21.2                         | 7A                        | 1S8FSS                | 21.2                         | 7A                        | 4X1S8FSS              | 48                           | 51X                       | None                               | 115              | 180              |
| 1.5                                                                                      | 1.5S8F      | 30.1                         | 8A                        | 1.5S8FSS              | 30.1                         | 8A                        | 4X1.5S8FSS            | 55                           | 51X                       | None                               | 115              | 180              |
| 2                                                                                        | 2S8F        | 39.1                         | 9A                        | 2S8FSS                | 39.1                         | 9A                        | 4X2S8FSS              | 55                           | 51X                       | None                               | 115              | 180              |
| 3                                                                                        | 3S61F       | 60                           | 10A                       | 3S61FSS               | 60                           | 10A                       | 4X3S61FSS             | 75                           | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 5                                                                                        | 5S61F       | 115                          | 13B                       | 5S61FSS               | 115                          | 13B                       | 4X5S61FSS             | 125                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 7.5                                                                                      | 7S61F       | 135                          | 13B                       | 7S61FSS               | 135                          | 13B                       | 4X7S61FSS             | 150                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 10                                                                                       | 10S61F      | 165                          | 13B                       | 10S61FSS              | 165                          | 13B                       | 4X10S61FSS            | 180                          | 52X                       | 2-5%FCBN                           | 115              | 180              |
| 15                                                                                       | 15S61F      | 225                          | 15B                       | 15S61FSS              | 225                          | 15B                       | 4X15S61FSS            | 390                          | 53X                       | 2-5%FCBN                           | 115              | 180              |
| 25                                                                                       | 25S61F      | 300                          | 15B                       | 25S61FSS              | 300                          | 15B                       | 4X25S61FSS            | 450                          | 53X                       | 2-5%FCBN                           | 115              | 180              |

**Table 14.15: Single-Phase—120/240 Vac Secondary 60 Hz; cULus Listed**

| kVA  | 240 x 480 Primary Catalog No. | Weight (lbs) <sup>[17]</sup> | Enclosure <sup>[19]</sup> | 600 Primary Catalog No. | Weight (lbs) <sup>[17]</sup> | Enclosure <sup>[19]</sup> | Full Capacity Taps | Degree C Temperature Rise | Insulation Class |
|------|-------------------------------|------------------------------|---------------------------|-------------------------|------------------------------|---------------------------|--------------------|---------------------------|------------------|
| 0.05 | 50SV1A                        | 4.2                          | 1A                        | 50SV51A                 | 4.2                          | 1A                        | None               | 55                        | 105              |
| 0.1  | 100SV1A                       | 4.5                          | 2A                        | 100SV51A                | 4.5                          | 2A                        | None               | 55                        | 105              |
| 0.15 | 150SV1A                       | 6.2                          | 3A                        | 150SV51A                | 6.2                          | 3A                        | None               | 55                        | 105              |
| 0.25 | 250SV1B                       | 10.5                         | 4A                        | 250SV51B                | 10.5                         | 4A                        | None               | 80                        | 130              |
| 0.5  | 500SV1B                       | 13.8                         | 5A                        | 500SV51B                | 13.8                         | 5A                        | None               | 80                        | 130              |
| 0.75 | 750SV1F                       | 15.5                         | 6A                        | 750SV51F                | 15.5                         | 6A                        | None               | 115                       | 180              |

[17] Not for construction, Contact your local Schneider Electric representative for certified prints.

[18] For enclosure styles, see Table 14.8 Enclosure Dimensions and Accessories, page 14-8

[19] For enclosure styles, see Enclosure Dimensions, page 14-12

[20] FCBN = Full Capacity Below Normal.

## Resin Encapsulated Export Model and Buck Boost Transformers Single Phase Export Model

These general purpose transformers accommodate voltage systems world wide. Export model transformers 10 kVA and smaller, CE marked in addition to being cULus Listed. For CE marked transformers in other ratings, contact your local Schneider Electric representative for CE marked transformers up to 300 kVA, single and three phase.

**Table 14.16: Single-Phase—110 / 220 Vac Secondary; 50/60 Hz; cULus Listed (240 x 480 Vac Primary to 120 / 240 Vac Secondary - 60 Hz only)**

| kVA | 220 x 440 Primary Catalog No. | Weight (lbs)/[21] | Enclosure[22] | Full Capacity Taps                | Degree C Temperature Rise | Insulation Class |
|-----|-------------------------------|-------------------|---------------|-----------------------------------|---------------------------|------------------|
| 1   | 1S67F                         | 21.2              | 7A            | 190/200/208/220 x 380/400/416/440 | 115                       | 180              |
| 2   | 2S67F                         | 39.1              | 9A            | 190/200/208/220 x 380/400/416/440 | 115                       | 180              |
| 3   | 3S67F                         | 55.2              | 10A           | 190/200/208/220 x 380/400/416/440 | 115                       | 180              |
| 5   | 5S67F                         | 135               | 13B           | 190/200/208/220 x 380/400/416/440 | 115                       | 180              |
| 7.5 | 7S67F                         | 165               | 13B           | 190/200/208/220 x 380/400/416/440 | 115                       | 180              |
| 10  | 10S67F                        | 165               | 13B           | 190/200/208/220 x 380/400/416/440 | 115                       | 180              |

### Sealed Single-Phase Buck and Boost

When buck and boost transformers are interconnected as an autotransformer, they can supply small changes in voltage. Wiring diagrams and sizing are available from catalog 7414CT0201 or [www.buckboostcalculator.com](http://www.buckboostcalculator.com).

Units can also be used as isolation transformers for:

120 x 240 to 12/24 or 16/32 and 240 x 480 to 24/48 by connecting using the diagram on the nameplate.

**NOTE:** When used to supply a three-phase four-wire load, the source must be three-phase four-wire.

| kVA  | 120 x 240 Vac Primary 60 Hz |                     | 240 x 480 Vac Primary 60 Hz | Weight (lbs)/[21] | Enclosure[22]                         | Degree C Temperature Rise | Insulation Class |
|------|-----------------------------|---------------------|-----------------------------|-------------------|---------------------------------------|---------------------------|------------------|
|      | 12/24 Vac Secondary         | 16/32 Vac Secondary | 24/48 Vac Secondary         |                   |                                       |                           |                  |
| 0.05 | 50SV43A                     | 50SV46A             | 50SV82A                     | 4.2               | 1A                                    | 55                        | 105              |
| 0.1  | 100SV43A                    | 100SV46A            | 100SV82A                    | 4.5               | 2A                                    | 55                        | 105              |
| 0.15 | 150SV43A                    | 150SV46A            | 150SV82A                    | 6.2               | 3A                                    | 55                        | 105              |
| 0.25 | 250SV43B                    | 250SV46B            | 250SV82B                    | 10.5              | 4A                                    | 80                        | 130              |
| 0.5  | 500SV43B                    | 500SV46B            | 500SV82B                    | 13.8              | 5A                                    | 80                        | 130              |
| 0.75 | 750SV43F                    | 750SV46F            | 750SV82F                    | 15.5              | 6A                                    | 115                       | 180              |
| 1    | 1S43F                       | 1S46F               | 1S82F                       | 21.2              | 7A                                    | 115                       | 180              |
| 1.5  | 1.5S43F                     | 1.5S46F             | 1.5S82F                     | 30.1              | 8A                                    | 115                       | 180              |
| 2    | 2S43F                       | 2S46F               | 2S82F                       | 39.1              | 9A                                    | 115                       | 180              |
| 3    | 3S43F                       | 3S46F               | 3S82F                       | 60                | * See table 14.17<br>3 kVA Buck Boost | 115                       | 180              |

### 3 kVA Buck Boost

**Table 14.17: Enclosure Dimensions**

| Enclosure Number/<br>Style |   | Height |     | Width |     | Depth |     | Mounting |
|----------------------------|---|--------|-----|-------|-----|-------|-----|----------|
|                            |   | in.    | mm  | in.   | mm  | in.   | mm  |          |
| 1                          | A | 5.00   | 127 | 4.47  | 114 | 3.44  | 87  | Wall     |
| 2                          | A | 5.50   | 140 | 4.47  | 114 | 3.44  | 87  | Wall     |
| 3                          | A | 5.00   | 127 | 4.85  | 123 | 3.75  | 95  | Wall     |
| 4                          | A | 5.50   | 140 | 5.23  | 133 | 4.06  | 103 | Wall     |
| 5                          | A | 6.19   | 157 | 6.19  | 157 | 4.69  | 119 | Wall     |
| 6                          | A | 6.69   | 170 | 6.19  | 157 | 4.69  | 119 | Wall     |
| 7                          | A | 8.13   | 270 | 6.94  | 176 | 5.31  | 135 | Wall     |
| 8                          | A | 8.25   | 210 | 8.68  | 220 | 6.56  | 167 | Wall     |
| 9                          | A | 9.56   | 243 | 8.68  | 220 | 6.56  | 167 | Wall     |
| 10                         | A | 10.50  | 267 | 8.62  | 219 | 6.50  | 165 | Wall     |
| 11                         | A | 12.56  | 319 | 8.62  | 219 | 6.50  | 165 | Wall     |
| * 3 kVA Buck Boost         |   | 14.5   | —   | 8.62  | —   | 6.5   | —   | —        |
| 12                         | C | 13.50  | 343 | 14.75 | 375 | 9     | 229 | Wall     |
| 13                         | B | 14.75  | 375 | 9.75  | 248 | 11.75 | 298 | Wall     |
| 14                         | C | 14.75  | 375 | 19.1  | 485 | 2.25  | 311 | Wall     |
| 15                         | B | 20.00  | 508 | 15    | 381 | 13.5  | 343 | Wall     |
| 16                         | C | 22.00  | 559 | 25    | 635 | 13.5  | 343 | Wall     |
| 51                         | X | 9.5    | 24  | 10    | 25  | 7.75  | 20  | Wall     |
| 52                         | X | 12     | 30  | 13.75 | 35  | 13.75 | 35  | Wall     |
| 53                         | X | 24     | 61  | 21.5  | 55  | 16.38 | 42  | Floor    |
| 54                         | X | 23     | 58  | 25.5  | 65  | 13.75 | 35  | Floor    |
| 55                         | X | 31.5   | 80  | 31.5  | 80  | 16.25 | 41  | Floor    |

These dimensions are not for construction. Contact your local Schneider Electric representative for certified prints.

Fingersafe™ terminal block cover kits for encapsulated transformers can be used to meet touch-safe requirements.

| Enclosure      | Kit Catlog Number | Description                                                               |
|----------------|-------------------|---------------------------------------------------------------------------|
| 7A (1 kVA)     | 7400ENT9          | Terminal Block H1, H2, H3, H4, H5, H6, H7, H8, H9, H10 and X1, X2, X3, X4 |
| 9A (2 kVA)     | 7400ENT11         | Terminal Block H1, H2, H3, H4, H5, H6, H7, H8, H9, H10 and X1, X2, X3, X4 |
| 10A (3 kVA)    | 7400ENT11         | Terminal Block H1, H2, H3, H4, H5, H6, H7, H8, H9, H10 and X1, X2, X3, X4 |
| 13B (5–10 kVA) | 7400ENT13         | Terminal Block H1, H2, H3, H4, H5, H6, H7, H8, H9, H10 and X1, X2, X3, X4 |

[21] Not for construction. Contact your local Schneider Electric representative for certified prints.

[22] For enclosure styles, see [Enclosure Dimensions](#), page 14-12



Style A—Type 3R Rated



Style B—Type 3R Rated



Style C—Type 3R Rated



Style X—Type 4X Rated

## Non-Ventilated and Transformer House

**Table 14.18: NV Three Phase; 60 Hz; 208Y / 120 Vac Secondary**<sup>[23]</sup>

| kVA                                             | Type 3R - IP 54 Catalog No. | Type 3R - IP 54 Catalog 304 Stainless Steel | Full Capacity Taps | Degree C Temp. Rise | Insulation Class | %IZ | Weight (lbs) <sup>[24]</sup> | Enclosure <sup>[25]</sup> |
|-------------------------------------------------|-----------------------------|---------------------------------------------|--------------------|---------------------|------------------|-----|------------------------------|---------------------------|
| <b>480 Vac Delta Primary, Aluminum Windings</b> |                             |                                             |                    |                     |                  |     |                              |                           |
| 15                                              | 15T3HNV                     | 15T3HNVSS                                   | 6-2.5%2+4-         | 150                 | 220              | 2.8 | —                            | —                         |
| 30                                              | 30T3HNV                     | 30T3HNVSS                                   | 6-2.5%2+4-         | 150                 | 220              | 3.5 | 340                          | 19E                       |
| 45                                              | 45T3HNV                     | 45T3HNVSS                                   | 6-2.5%2+4-         | 150                 | 220              | 3.3 | 510                          | 19E                       |
| 75                                              | 75T3HNV                     | 75T3HNVSS                                   | 6-2.5%2+4-         | 150                 | 220              | 2.5 | 1025                         | 22E                       |
| 112.5                                           | 112T3HNV                    | 112T3HNVSS                                  | 6-2.5%2+4-         | 150                 | 220              | 3.3 | 1250                         | 24E                       |
| 150                                             | 150T3HNV                    | 150T3HNVSS                                  | 6-2.5%2+4-         | 150                 | 220              | 2.9 | 2000                         | 25E                       |
| 225                                             | 225T3HNV                    | 225T3HNVSS                                  | 6-2.5%2+4-         | 150                 | 220              | 4.3 | 2100                         | 30E                       |
| 300                                             | 300T3HNV                    | 300T3HNVSS                                  | 6-2.5%2+4-         | 150                 | 220              | 2.8 | 3950                         | 31E                       |

**Table 14.19: NV Single Phase; 60 Hz; 120/240 Vac Secondary**<sup>[23]</sup>

| kVA                                             | Type 3R - IP 54 Catalog No. | Type 3R - IP 54 Catalog 304 Stainless Steel | Full Capacity Taps                                 | Degree C Temp. Rise | Insulation Class | %IZ | Weight (lbs) <sup>[24]</sup> | Enclosure <sup>[25]</sup> |
|-------------------------------------------------|-----------------------------|---------------------------------------------|----------------------------------------------------|---------------------|------------------|-----|------------------------------|---------------------------|
| <b>240 x 480 Vac Primary, Aluminum Windings</b> |                             |                                             |                                                    |                     |                  |     |                              |                           |
| 15                                              | 15S3HNV                     | 15S3HNVSS                                   | 480 Vac<br>6 - 2.5% 2+4-<br>240 Vac<br>3 - 5% 1+2- | 150                 | 220              | 4.4 | 230                          | 17E                       |
| 25                                              | C25S3HNV                    | 25S3HNVSS                                   |                                                    | 150                 | 220              | 4.1 | 310                          | 18E                       |
| 37.5                                            | 37S3HNV                     | 37S3HNVSS                                   |                                                    | 150                 | 220              | 4.4 | 350                          | 18E                       |
| 50                                              | 50S3HNV                     | 50S3HNVSS                                   |                                                    | 150                 | 220              | 3.1 | 450                          | 21E                       |
| 75                                              | 75S3HNV                     | 75S3HNVSS                                   |                                                    | 150                 | 220              | 2.9 | 880                          | 24E                       |
| 100                                             | 100S3HNV                    | 100S3HNVSS                                  |                                                    | 150                 | 220              | 1.7 | 975                          | 25E                       |



Style E—IP55 Rated



**Table 14.20: Enclosure Dimensions and Accessories**

| Enclosure Number/Style |   | Height |      | Width |      | Depth |      | Mounting | Wall Mounting Bracket | Ceiling Mounting Bracket | Insulation Class oC |
|------------------------|---|--------|------|-------|------|-------|------|----------|-----------------------|--------------------------|---------------------|
|                        |   | in.    | mm   | in.   | mm   | in.   | mm   |          |                       |                          |                     |
| 17                     | E | 27     | 686  | 20    | 508  | 16    | 406  | Floor    | WMB361362             | CMB363                   | 220                 |
| 18                     | E | 30     | 762  | 20    | 508  | 20    | 508  | Floor    | WMB363364             | CMB363                   | 220                 |
| 19                     | E | 30     | 762  | 30    | 762  | 20    | 508  | Floor    | WMB363364             | CMB364                   | 220                 |
| 21                     | E | 37     | 940  | 30    | 762  | 24    | 610  | Floor    | —                     | CMB364                   | 220                 |
| 22                     | E | 43.75  | 1111 | 32    | 813  | 27    | 686  | Floor    | —                     | CMB380                   | 220                 |
| 24                     | E | 49.5   | 1257 | 35    | 889  | 28.5  | 724  | Floor    | —                     | CMB381                   | 220                 |
| 25                     | E | 49.5   | 1257 | 41    | 1041 | 32    | 813  | Floor    | —                     | —                        | 220                 |
| 26                     | E | 57.5   | 1461 | 41    | 1041 | 32    | 813  | Floor    | —                     | —                        | 220                 |
| 28                     | E | 60     | 1524 | 56    | 1422 | 36    | 914  | Floor    | —                     | —                        | 220                 |
| 29                     | E | 68     | 1727 | 56    | 1422 | 36    | 914  | Floor    | —                     | —                        | 220                 |
| 30                     | E | 71     | 1803 | 48    | 1219 | 36    | 914  | Floor    | —                     | —                        | 220                 |
| 31                     | E | 74     | 1880 | 56    | 1422 | 40.5  | 1029 | Floor    | —                     | —                        | 220                 |

These dimensions are not for construction. Contact your local Schneider Electric representative for certified prints.

## PZC Transformer Enclosures

Power Zone Center house is installed over the standard ventilated units to provide additional security and environmental protection.

**Type 3R enclosure Option No. 1 constructed of 304 stainless steel for corrosive protection.**

Designed to allow energy efficient transformers to be installed in environments requiring more protection.

**Type 3R enclosure Option No. 2 constructed of painted galvanized for safety**

Designed to allow energy efficient transformers to be secured with a padlockable handle for security, which is ideal for school yards.

PZC transformer enclosures are shipped separately from transformers so they can be pre-installed on the job site.

Four standard enclosures of each type material are available for installation of transformer enclosure types D and H.

Drawings are in the Classic Technical Library. Search by catalog number, which is the same as the drawing number.

**Table 14.21: Stainless Steel Option**

| Catalog No.  | L     | W     | H      | Weight  | Enclosure                              |
|--------------|-------|-------|--------|---------|----------------------------------------|
| 7400SS3R-001 | 3'-8" | 3'-4" | 4'-9"  | 450 lbs | 17D, 17H, 18D, 18H, 19D, 20D, 21D, 22D |
| 7400SS3R-002 | 4'-6" | 3'-9" | 6'-0"  | 500 lbs | 24D, 25D, 26D, 36D, 37D                |
| 7400SS3R-003 | 5'-8" | 4'-1" | 7'-0"  | 550 lbs | 28D, 29D, 30D, 38D                     |
| 7400SS3R-004 | 6'-4" | 4'-9" | 7'-10" | 600 lbs | 31D, 45D                               |

**Table 14.22: Painted Galvanized Option**

| Catalog No.  | L     | W     | H      | Weight  | Enclosure                              |
|--------------|-------|-------|--------|---------|----------------------------------------|
| 7400PG3R-001 | 3'-8" | 3'-4" | 4'-9"  | 450 lbs | 17D, 17H, 18D, 18H, 19D, 20D, 21D, 22D |
| 7400PG3R-002 | 4'-6" | 3'-9" | 6'-0"  | 500 lbs | 24D, 25D, 26D, 36D, 37D                |
| 7400PG3R-003 | 5'-8" | 4'-1" | 7'-0"  | 550 lbs | 28D, 29D, 30D, 38D                     |
| 7400PG3R-004 | 6'-4" | 4'-9" | 7'-10" | 600 lbs | 31D, 45D                               |

<sup>[23]</sup> Lugs are furnished by customer.

<sup>[24]</sup> Not for construction. Contact your local Schneider Electric representative for certified prints.

<sup>[25]</sup> For enclosure styles, see Table 14.20 Enclosure Dimensions and Accessories, page 14-13

## Type T and Type TF

Type T transformers are designed with low impedance windings for excellent voltage regulation and can accommodate the high inrush current associated with contactors, starters, solenoids, and relays. Type T transformers are manufactured using the most advanced insulating materials and are the best choice if size and cost are of concern.

Type TF transformers include factory-installed primary and secondary fuse blocks. Type TF transformers consist of two primary fuse blocks and one secondary fuse block. The primary includes rejection-style clips to increase the AIC ratings for the fuses. Since the fuse blocks are mounted on the top of the transformer, Type TF transformers are interchangeable with Type T transformers except for their increased height.

### Selection Guide

1. Determine the inrush and sealed VA of each coil in the control circuit and the VA of all other components.
2. Total the **sealed** VA of all operating coils and the VA of all other loads. (This determines the minimum VA size required for the circuit.)
3. Total the **inrush** VA of all coils that are starting at the same time and all loads and coils that are running.
4. Locate a value in the VA column of [Table 14.23 Regulation Chart for Type T, page 14-14](#), shown below, that is **equal to** or **greater than** the value calculated in step 2.
5. In the VA row selected in step 4, find the inrush value under the appropriate voltage regulation column of [Table 14.23 Regulation Chart for Type T, page 14-14](#), shown below. If this value is **greater than** the calculated value from step 3, this is the correct transformer VA rating.

If the inrush value on the selected VA row is **not greater than** the calculated value from step 3, use the next higher transformer VA rating, that is, the rating on the next row.

If your supply voltage is stable and fluctuates less than 5%, Schneider Electric recommends you use the 90% secondary voltage column. If your supply voltage is not stable and fluctuates more than 10% we recommend you use the 95% secondary voltage column. We recommend that you never use the 85% secondary voltage column since magnetic devices lose life expectancy if they are continuously started at 85% of rated voltage.

**Table 14.23: Regulation Chart for Type T**

| VA   | Inrush VA @ 20% power factor |                             |                             | Inrush VA @ 40% power factor |                             |                             |
|------|------------------------------|-----------------------------|-----------------------------|------------------------------|-----------------------------|-----------------------------|
|      | 95%<br>Secondary<br>Voltage  | 90%<br>Secondary<br>Voltage | 85%<br>Secondary<br>Voltage | 95%<br>Secondary<br>Voltage  | 90%<br>Secondary<br>Voltage | 85%<br>Secondary<br>Voltage |
| 50   | 193                          | 266                         | 339                         | 151                          | 215                         | 282                         |
| 75   | 271                          | 396                         | 20                          | 210                          | 318                         | 430                         |
| 100  | 339                          | 499                         | 659                         | 266                          | 404                         | 549                         |
| 150  | 666                          | 893                         | 1120                        | 529                          | 731                         | 942                         |
| 200  | 588                          | 815                         | 1041                        | 459                          | 659                         | 866                         |
| 250  | 1416                         | 1910                        | 2388                        | 1057                         | 1494                        | 1936                        |
| 300  | 1634                         | 2184                        | 2709                        | 1194                         | 1681                        | 2169                        |
| 350  | 1894                         | 2592                        | 3261                        | 1392                         | 2005                        | 621                         |
| 500  | 3197                         | 4104                        | 4981                        | 2374                         | 3195                        | 4019                        |
| 750  | 3770                         | 5515                        | 7231                        | 2887                         | 4391                        | 5945                        |
| 1000 | 6587                         | 9079                        | 11430                       | 4706                         | 6886                        | 9051                        |
| 1500 | 19324                        | 23983                       | 28607                       | 15066                        | 19361                       | 23756                       |
| 2000 | 31384                        | 38777                       | 6161                        | 24794                        | 31630                       | 38667                       |
| 3000 | 26539                        | 39934                       | 52713                       | 19355                        | 30721                       | 42216                       |
| 5000 | 53111                        | 85265                       | 116277                      | 39368                        | 66309                       | 93882                       |



**Table 14.24: 240 x 480 V Primary, 120 V Secondary; 230 x 460 V Primary, 115 V Secondary; 220 x 440 V Primary, 110 V Secondary**

| VA         |      | Type T      | Type TF      | Weight | Height  |     |      |     | Width |     | Depth |     | Accesso-<br>ry Finger-<br>safe<br>Covers |
|------------|------|-------------|--------------|--------|---------|-----|------|-----|-------|-----|-------|-----|------------------------------------------|
| UL/CSA/NOM | CE   | Catalog No. | Type T       |        | Type TF |     |      |     |       |     |       |     |                                          |
|            |      |             | in.          |        | mm      | in. | mm   | in. | mm    | in. | mm    |     |                                          |
| 25         | 25   | 9070T25D1   | 9070TF25D1   | 2.5    | 2.58    | 66  | 4.00 | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 50         | 50   | 9070T50D1   | 9070TF50D1   | 2.5    | 2.58    | 66  | 4.00 | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 75         | 75   | 9070T75D1   | 9070TF75D1   | 3.8    | 2.89    | 73  | 4.18 | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 100        | 100  | 9070T100D1  | 9070TF100D1  | 3.8    | 2.89    | 73  | 4.18 | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 150        | 150  | 9070T150D1  | 9070TF150D1  | 5.5    | 3.20    | 81  | 4.50 | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 200        | 200  | 9070T200D1  | 9070TF200D1  | 5.5    | 3.20    | 81  | 4.50 | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 250        | 160  | 9070T250D1  | 9070TF250D1  | 7.1    | 3.20    | 81  | 4.50 | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                     |
| 300        | 200  | 9070T300D1  | 9070TF300D1  | 8.5    | 3.84    | 98  | 5.13 | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                     |
| 350        | 250  | 9070T350D1  | 9070TF350D1  | 10.5   | 3.84    | 98  | 5.13 | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                     |
| 500        | 300  | 9070T500D1  | 9070TF500D1  | 11.9   | 3.84    | 98  | 5.13 | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                     |
| 750        | 500  | 9070T750D1  | 9070TF750D1  | 11.0   | 4.51    | 115 | 5.80 | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                     |
| 1000       | 630  | 9070T1000D1 | 9070TF1000D1 | 20.6   | 4.51    | 115 | 5.80 | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                     |
| 1500       | 1000 | 9070T1500D1 | 9070TF1500D1 | 34.0   | 6.17    | 157 | 7.46 | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                     |
| 2000       | 1500 | 9070T2000D1 | 9070TF2000D1 | 47.0   | 6.17    | 157 | 7.46 | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                     |
| 3000       | 2000 | 9070T3000D1 | —            | 60.0   | 8.75    | 222 | —    | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                     |
| 5000       | 3000 | 9070T5000D1 | —            | 89.0   | 8.75    | 222 | —    | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                     |

**Table 14.25: 208 Vac Primary, 120 Vac Secondary**

| VA         |      | Type T      | Type TF      | Weight | Height |     |         |     | Width |     | Depth |     | Accesso-<br>ry<br>Finger-<br>safe<br>Covers |
|------------|------|-------------|--------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|---------------------------------------------|
| UL/CSA/NOM | CE   | Catalog No. |              |        | Type T |     | Type TF |     |       |     |       |     |                                             |
|            |      | in.         | mm           |        | in.    | mm  | in.     | mm  | in.   | mm  |       |     |                                             |
| 25         | 25   | 9070T25D3   | 9070TF25D3   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                        |
| 50         | 50   | 9070T50D3   | 9070TF50D3   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                        |
| 75         | 75   | 9070T75D3   | 9070TF75D3   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                        |
| 100        | 100  | 9070T100D3  | 9070TF100D3  | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                        |
| 150        | 150  | 9070T150D3  | 9070TF150D3  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                        |
| 200        | 200  | 9070T200D3  | 9070TF200D3  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                        |
| 250        | 160  | 9070T250D3  | 9070TF250D3  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                        |
| 300        | 200  | 9070T300D3  | 9070TF300D3  | 8.5    | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                        |
| 350        | 250  | 9070T350D3  | 9070TF350D3  | 10.5   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                        |
| 500        | 300  | 9070T500D3  | 9070TF500D3  | 11.9   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                        |
| 750        | 500  | 9070T750D3  | 9070TF750D3  | 11.0   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                        |
| 1000       | 630  | 9070T1000D3 | 9070TF1000D3 | 20.6   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                        |
| 1500       | 1000 | 9070T1500D3 | 9070TF1500D3 | 34.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                        |
| 2000       | 1500 | 9070T2000D3 | 9070TF2000D3 | 47.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                        |
| 3000       | 2000 | 9070T3000D3 | —            | 60.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                        |
| 5000       | 3000 | 9070T5000D3 | —            | 89.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                        |

**Table 14.26: 600 Vac Primary, 120 Vac Secondary**

| VA         |      | Type T      | Type TF      | Weight | Height |     |         |     | Width |     | Depth |     | Accesso-ry<br>Finger-<br>safe<br>Covers |
|------------|------|-------------|--------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|-----------------------------------------|
| UL/CSA/NOM | CE   | Catalog No. |              |        | Type T |     | Type TF |     | in.   | mm  | in.   | mm  |                                         |
|            |      |             |              |        | in.    | mm  | in.     | mm  |       |     |       |     |                                         |
| 25         | 25   | 9070T25D5   | 9070TF25D5   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                    |
| 50         | 50   | 9070T50D5   | 9070TF50D5   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                    |
| 75         | 75   | 9070T75D5   | 9070TF75D5   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                    |
| 100        | 100  | 9070T100D5  | 9070TF100D5  | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                    |
| 150        | 150  | 9070T150D5  | 9070TF150D5  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                    |
| 200        | 200  | 9070T200D5  | 9070TF200D5  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                    |
| 250        | 160  | 9070T250D5  | 9070TF250D5  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                    |
| 300        | 200  | 9070T300D5  | 9070TF300D5  | 8.5    | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                    |
| 350        | 250  | 9070T350D5  | 9070TF350D5  | 10.5   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                    |
| 500        | 300  | 9070T500D5  | 9070TF500D5  | 11.9   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                    |
| 750        | 500  | 9070T750D5  | 9070TF750D5  | 11.0   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                    |
| 1000       | 630  | 9070T1000D5 | 9070TF1000D5 | 20.6   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                    |
| 1500       | 1000 | 9070T1500D5 | 9070TF1500D5 | 34.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                    |
| 2000       | 1500 | 9070T2000D5 | 9070TF2000D5 | 47.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                    |
| 3000       | 2000 | 9070T3000D5 | —            | 60.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                    |
| 5000       | 3000 | 9070T5000D5 | —            | 89.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                    |

**Table 14.27: 277 Vac Primary, 120 Vac Secondary**

| VA         |      | Type T      | Type TF <sup>[1]</sup> | Weight | Height  |     |     |    | Width |     | Depth |     | Accesso-ry<br>Finger-<br>safe<br>Covers |
|------------|------|-------------|------------------------|--------|---------|-----|-----|----|-------|-----|-------|-----|-----------------------------------------|
| UL/CSA/NOM | CE   | Catalog No. | Type T                 |        | Type TF |     | in. | mm | in.   | mm  |       |     |                                         |
|            |      |             | in.                    |        | mm      | in. |     |    |       |     | mm    |     |                                         |
| 25         | 25   | 9070T25D4   | —                      | 2.5    | 2.58    | 66  | —   | —  | 3.00  | 76  | 3.09  | 79  | FSC1                                    |
| 50         | 50   | 9070T50D4   | —                      | 2.5    | 2.58    | 66  | —   | —  | 3.00  | 76  | 3.09  | 79  | FSC1                                    |
| 75         | 75   | 9070T75D4   | —                      | 3.8    | 2.89    | 73  | —   | —  | 3.38  | 86  | 3.34  | 85  | FSC1                                    |
| 100        | 100  | 9070T100D4  | —                      | 3.8    | 2.89    | 73  | —   | —  | 3.38  | 86  | 3.34  | 85  | FSC1                                    |
| 150        | 150  | 9070T150D4  | —                      | 5.5    | 3.20    | 81  | —   | —  | 3.75  | 95  | 3.59  | 91  | FSC1                                    |
| 200        | 200  | 9070T200D4  | —                      | 5.5    | 3.20    | 81  | —   | —  | 3.75  | 95  | 3.59  | 91  | FSC1                                    |
| 250        | 160  | 9070T250D4  | —                      | 7.1    | 3.20    | 81  | —   | —  | 3.75  | 95  | 5.30  | 135 | FSC2                                    |
| 300        | 200  | 9070T300D4  | —                      | 8.5    | 3.84    | 98  | —   | —  | 4.50  | 114 | 4.74  | 120 | FSC2                                    |
| 350        | 250  | 9070T350D4  | —                      | 10.5   | 3.84    | 98  | —   | —  | 4.50  | 114 | 5.11  | 130 | FSC2                                    |
| 500        | 300  | 9070T500D4  | —                      | 11.9   | 3.84    | 98  | —   | —  | 4.50  | 114 | 5.49  | 139 | FSC2                                    |
| 750        | 500  | 9070T750D4  | —                      | 11.0   | 4.51    | 115 | —   | —  | 5.25  | 133 | 5.61  | 143 | FSC2                                    |
| 1000       | 630  | 9070T1000D4 | —                      | 20.6   | 4.51    | 115 | —   | —  | 5.25  | 133 | 6.30  | 160 | FSC2                                    |
| 1500       | 1000 | 9070T1500D4 | —                      | 34.0   | 6.17    | 157 | —   | —  | 7.06  | 179 | 5.92  | 150 | FSC2                                    |
| 2000       | 1500 | 9070T2000D4 | —                      | 47.0   | 6.17    | 157 | —   | —  | 7.06  | 179 | 7.17  | 182 | FSC2                                    |
| 3000       | 2000 | 9070T3000D4 | —                      | 60.0   | 8.75    | 222 | —   | —  | 9.00  | 229 | 7.24  | 184 | FSC2                                    |
| 5000       | 3000 | 9070T5000D4 | —                      | 89.0   | 8.75    | 222 | —   | —  | 9.00  | 229 | 9.15  | 232 | FSC2                                    |

[1] TF units are design for line to line voltages on the primary, 277 Vac is a line to neutral voltage.

Table 14.28: 240 x 480 V Primary, 120/240 V Secondary; 230 x 460 V Primary, 115/230 V Secondary; 220 x 440 V Primary, 110/220 V Secondary

| VA         |      | Type T       | Type TF[2]    | Weight | Height |     |         |     | Width |     | Depth |     | Accesso-<br>ry Finger-<br>safe<br>Covers |
|------------|------|--------------|---------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|------------------------------------------|
| UL/CSA/NOM | CE   | Catalog No.  |               |        | Type T |     | Type TF |     |       |     |       |     |                                          |
|            |      |              |               |        | in.    | mm  | in.     | mm  | in.   | mm  | in.   | mm  |                                          |
| 25         | 25   | 9070T25D31   | 9070TF25D31   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 50         | 50   | 9070T50D31   | 9070TF50D31   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 75         | 75   | 9070T75D31   | 9070TF75D31   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 100        | 100  | 9070T100D31  | 9070TF100D31  | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 150        | 150  | 9070T150D31  | 9070TF150D31  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 200        | 200  | 9070T200D31  | 9070TF200D31  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 250        | 160  | 9070T250D31  | 9070TF250D31  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                     |
| 300        | 200  | 9070T300D31  | 9070TF300D31  | 8.5    | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                     |
| 350        | 250  | 9070T350D31  | 9070TF350D31  | 10.5   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                     |
| 500        | 300  | 9070T500D31  | 9070TF500D31  | 11.9   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                     |
| 750        | 500  | 9070T750D31  | 9070TF750D31  | 11.0   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                     |
| 1000       | 630  | 9070T1000D31 | 9070TF1000D31 | 20.6   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                     |
| 1500       | 1000 | 9070T1500D31 | 9070TF1500D31 | 34.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                     |
| 2000       | 1500 | 9070T2000D31 | 9070TF2000D31 | 47.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                     |
| 3000       | 2000 | 9070T3000D31 | —             | 60.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                     |
| 5000       | 3000 | 9070T5000D31 | —             | 89.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                     |

Table 14.29: 600 Vac Primary, 120/240 Vac Secondary

| VA         |      | Type T       | Type TF[2]    | Weight | Height |     |         |     | Width |     | Depth |     | Accesso-<br>ry Finger-<br>safe<br>Covers |
|------------|------|--------------|---------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|------------------------------------------|
| UL/CSA/NOM | CE   | Catalog No.  |               |        | Type T |     | Type TF |     |       |     |       |     |                                          |
|            |      |              |               |        | in.    | mm  | in.     | mm  | in.   | mm  | in.   | mm  |                                          |
| 25         | 25   | 9070T25D37   | 9070TF25D37   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 50         | 50   | 9070T50D37   | 9070TF50D37   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 75         | 75   | 9070T75D37   | 9070TF75D37   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 100        | 100  | 9070T100D37  | 9070TF100D37  | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 150        | 150  | 9070T150D37  | 9070TF150D37  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 200        | 200  | 9070T200D37  | 9070TF200D37  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 250        | 160  | 9070T250D37  | 9070TF250D37  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                     |
| 300        | 200  | 9070T300D37  | 9070TF300D37  | 8.5    | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                     |
| 350        | 250  | 9070T350D37  | 9070TF350D37  | 10.5   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                     |
| 500        | 300  | 9070T500D37  | 9070TF500D37  | 11.9   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                     |
| 750        | 500  | 9070T750D37  | 9070TF750D37  | 11.0   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                     |
| 1000       | 630  | 9070T1000D37 | 9070TF1000D37 | 20.6   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                     |
| 1500       | 1000 | 9070T1500D37 | 9070TF1500D37 | 34.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                     |
| 2000       | 1500 | 9070T2000D37 | 9070TF2000D37 | 47.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                     |
| 3000       | 2000 | 9070T3000D37 | —             | 60.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                     |
| 5000       | 3000 | 9070T5000D37 | —             | 89.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                     |

Table 14.30: 380/400/415 Vac Primary, 115/230 Vac Secondary

| VA         |      | Type T       | Type TF       | Weight | Height |     |         |     | Width |     | Depth |     | Accesso-<br>ry Finger-<br>safe<br>Covers |
|------------|------|--------------|---------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|------------------------------------------|
| UL/CSA/NOM | CE   | Catalog No.  |               |        | Type T |     | Type TF |     |       |     |       |     |                                          |
|            |      |              |               |        | in.    | mm  | in.     | mm  | in.   | mm  | in.   | mm  |                                          |
| 25         | 25   | 9070T25D33   | 9070TF25D33   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 50         | 50   | 9070T50D33   | 9070TF50D33   | 2.5    | 2.58   | 66  | 4.00    | 102 | 3.00  | 76  | 3.09  | 79  | FSC1                                     |
| 75         | 75   | 9070T75D33   | 9070TF75D33   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 100        | 100  | 9070T100D33  | 9070TF100D33  | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                     |
| 150        | 150  | 9070T150D33  | 9070TF150D33  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 200        | 200  | 9070T200D33  | 9070TF200D33  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                     |
| 250        | 160  | 9070T250D33  | 9070TF250D33  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                     |
| 300        | 200  | 9070T300D33  | 9070TF300D33  | 8.5    | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                     |
| 350        | 250  | 9070T350D33  | 9070TF350D33  | 10.5   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                     |
| 500        | 300  | 9070T500D33  | 9070TF500D33  | 11.9   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                     |
| 750        | 500  | 9070T750D33  | 9070TF750D33  | 11.0   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                     |
| 1000       | 630  | 9070T1000D33 | 9070TF1000D33 | 20.6   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                     |
| 1500       | 1000 | 9070T1500D33 | 9070TF1500D33 | 34.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                     |
| 2000       | 1500 | 9070T2000D33 | 9070TF2000D33 | 47.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                     |
| 3000       | 2000 | 9070T3000D33 | —             | 60.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                     |
| 5000       | 3000 | 9070T5000D33 | —             | 89.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                     |

Field Installed Fuse Blocks—Design for Line to Line Primary Voltages and Line to Neutral Secondary Voltages

Table 14.31: Accessories

| Catalog No. | Voltage Codes                                         |            |           | Description                                                                                                                      | Order Qty |
|-------------|-------------------------------------------------------|------------|-----------|----------------------------------------------------------------------------------------------------------------------------------|-----------|
| Fuse Kit    |                                                       |            |           |                                                                                                                                  |           |
| —           | D1, D2, D3, D4, D5, D13, D14, D15, D23, D31, D33, D37 | D20, D32   | D19, D50  | —                                                                                                                                | —         |
| 9070FB3A    | T25–T200                                              | T25–T150   | —         | 3-pole fuse block for primary and secondary fusing, accommodates 1-1/2 x 13/32 in. midjet fuse (2 rejection and 1 non-rejection) | 1         |
| 9070FB3B    | T250–T3000                                            | T250–T2000 | T25–T2000 | —                                                                                                                                | 1         |
| 9070FB2A    | T25–T200                                              | T25–T150   | —         | 2-pole fuse block for primary fusing, accommodates 1-1/2 x 13/32 in. midjet fuse (2 rejection)                                   | 1         |
| 9070FB2B    | T250–T3000                                            | T250–T2000 | T25–T2000 | —                                                                                                                                | 1         |
| 9070SF25A   | T25–T200                                              | T25–T150   | —         | Secondary fuse clips accommodates 1-1/4 x 1/4 in. fuse                                                                           | 10        |
| 9070SF25B   | T250–T3000                                            | T250–T2000 | T25–T2000 | —                                                                                                                                | 10        |
| 9070SF41A   | T25–T200                                              | T25–T150   | —         | Secondary fuse clips accommodates 1-1/2 x 13/32 in. fuse                                                                         | 10        |
| 9070SF41B   | T250–T3000                                            | T250–T2000 | T25–T2000 | —                                                                                                                                | 10        |
| 9070FB1A    | T25–T200                                              | T25–T150   | —         | Secondary fuse block accommodates 1-1/4 x 1/4 in. fuse                                                                           | 1         |
| 9070FB1B    | T250–T3000                                            | T250–T2000 | T25–T2000 | —                                                                                                                                | 1         |
| 9070FP1     | —                                                     | —          | —         | Fuse puller for TF and FB kits                                                                                                   | 10        |

[2] TF designed for line to line primary and line to neutral secondary. If secondary connected in series, fuse block should be disconnected.

**Table 14.32: 208/230/460 Vac Primary, 115 Vac Secondary**

| VA         |      | Type T       | Type TF       | Weight | Height  |     |      |     | Width |     | Depth |     | Accesso-<br>ry<br>Finger-<br>safe<br>Covers |
|------------|------|--------------|---------------|--------|---------|-----|------|-----|-------|-----|-------|-----|---------------------------------------------|
|            |      |              | Type T        |        | Type TF |     |      |     |       |     |       |     |                                             |
| UL/CSA/NOM | CE   | Catalog No.  |               |        | in.     | mm  | in.  | mm  | in.   | mm  | in.   | mm  |                                             |
| 50         | 50   | 9070T50D20   | 9070TF50D20   | 4.0    | 2.89    | 73  | 4.18 | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                        |
| 75         | 75   | 9070T75D20   | 9070TF75D20   | 5.5    | 2.89    | 73  | 4.18 | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                                        |
| 100        | 100  | 9070T100D20  | 9070TF100D20  | 5.5    | 3.20    | 81  | 4.50 | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                        |
| 150        | 150  | 9070T150D20  | 9070TF150D20  | 5.5    | 3.20    | 81  | 4.50 | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                                        |
| 200        | 200  | 9070T200D20  | 9070TF200D20  | 8.5    | 3.20    | 81  | 4.50 | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                                        |
| 250        | 160  | 9070T250D20  | 9070TF250D20  | 10.5   | 3.84    | 98  | 5.13 | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                                        |
| 300        | 200  | 9070T300D20  | 9070TF300D20  | 10.5   | 3.84    | 98  | 5.13 | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                                        |
| 350        | 250  | 9070T350D20  | 9070TF350D20  | 11.9   | 3.84    | 98  | 5.13 | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                                        |
| 500        | 300  | 9070T500D20  | 9070TF500D20  | 11.0   | 4.51    | 115 | 5.80 | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                                        |
| 750        | 500  | 9070T750D20  | 9070TF750D20  | 20.6   | 4.51    | 115 | 5.80 | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                                        |
| 1000       | 630  | 9070T1000D20 | 9070TF1000D20 | 34.0   | 6.17    | 157 | 7.46 | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                                        |
| 1500       | 1000 | 9070T1500D20 | 9070TF1500D20 | 47.0   | 6.17    | 157 | 7.46 | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                                        |
| 2000       | 1500 | 9070T2000D20 | 9070TF2000D20 | 60.0   | 8.75    | 222 | —    | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                        |
| 3000       | 2000 | 9070T3000D20 | —             | 89.0   | 8.75    | 222 | —    | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                        |

**Table 14.33: 240/480/600 V Primary, 120 V Secondary; 230/460/575 V Primary, 115 V Secondary; 220/440/550 V Primary to 110 V Secondary**

| VA         |      | Type T       | Type TF       | Weight | Height |     |         |     | Width |     | Depth |     | Accessory Finger-safe Covers |
|------------|------|--------------|---------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|------------------------------|
| UL/CSA/NOM | CE   | Catalog No.  |               |        | Type T |     | Type TF |     | in.   | mm  | in.   | mm  |                              |
|            |      |              |               |        | in.    | mm  | in.     | mm  |       |     |       |     |                              |
| 50         | 50   | 9070T50D32   | 9070TF50D32   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                         |
| 75         | 75   | 9070T75D32   | 9070TF75D32   | 3.8    | 2.89   | 73  | 4.18    | 106 | 3.38  | 86  | 3.34  | 85  | FSC1                         |
| 100        | 100  | 9070T100D32  | 9070TF100D32  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                         |
| 150        | 150  | 9070T150D32  | 9070TF150D32  | 5.5    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 3.59  | 91  | FSC1                         |
| 200        | 200  | 9070T200D32  | 9070TF200D32  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 5.30  | 135 | FSC2                         |
| 250        | 160  | 9070T250D32  | 9070TF250D32  | 8.5    | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 4.74  | 120 | FSC2                         |
| 300        | 200  | 9070T300D32  | 9070TF300D32  | 10.5   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.11  | 130 | FSC2                         |
| 350        | 250  | 9070T350D32  | 9070TF350D32  | 11.9   | 3.84   | 98  | 5.13    | 130 | 4.50  | 114 | 5.49  | 139 | FSC2                         |
| 500        | 300  | 9070T500D32  | 9070TF500D32  | 11.0   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 5.61  | 143 | FSC2                         |
| 750        | 500  | 9070T750D32  | 9070TF750D32  | 20.6   | 4.51   | 115 | 5.80    | 147 | 5.25  | 133 | 6.30  | 160 | FSC2                         |
| 1000       | 630  | 9070T1000D32 | 9070TF1000D32 | 34.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 5.92  | 150 | FSC2                         |
| 1500       | 1000 | 9070T1500D32 | 9070TF1500D32 | 47.0   | 6.17   | 157 | 7.46    | 190 | 7.06  | 179 | 7.17  | 182 | FSC2                         |
| 2000       | 1500 | 9070T2000D32 | 9070TF2000D32 | 60.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 7.24  | 184 | FSC2                         |
| 3000       | 2000 | 9070T3000D32 | —             | 89.0   | 8.75   | 222 | —       | —   | 9.00  | 229 | 9.15  | 232 | FSC2                         |

**Table 14.34: 240/416/480/600 Vac Primary, 99/120/130 Vac Secondary; 230/400/460/575 Vac Primary, 95/115/125 Vac Secondary; 220/380/440/550 Vac Primary, 90/110/120 Vac Secondary; 208/360/416/520 Vac Primary, 85/104/115 Vac Secondary**

| VA         |      | Type T       | Type TF       | Weight | Height |     |         |     | Width |     | Depth |     | Accesso-<br>ry Finger-<br>safe<br>Covers |
|------------|------|--------------|---------------|--------|--------|-----|---------|-----|-------|-----|-------|-----|------------------------------------------|
| UL/CSA/NOM | CE   | Catalog No.  |               |        | Type T |     | Type TF |     |       |     |       |     |                                          |
|            |      |              |               |        | in.    | mm  | in.     | mm  | in.   | mm  | in.   | mm  |                                          |
| 50         | 50   | 9070T50D50   | 9070TF50D50   | 4.0    | 2.89   | 73  | 4.19    | 106 | 3.38  | 86  | 4.43  | 113 | FSC23                                    |
| 75         | 75   | 9070T75D50   | 9070TF75D50   | 7.2    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 4.70  | 119 | FSC23                                    |
| 100        | 100  | 9070T100D50  | 9070TF100D50  | 7.1    | 3.20   | 81  | 4.50    | 114 | 3.75  | 95  | 4.70  | 119 | FSC23                                    |
| 150        | 150  | 9070T150D50  | 9070TF150D50  | 8.5    | 3.84   | 98  | 5.14    | 131 | 4.50  | 114 | 4.74  | 120 | FSC23                                    |
| 200        | 200  | 9070T200D50  | 9070TF200D50  | 10.5   | 3.84   | 98  | 5.14    | 131 | 4.50  | 114 | 5.11  | 130 | FSC23                                    |
| 250        | 160  | 9070T250D50  | 9070TF250D50  | 10.5   | 3.84   | 98  | 5.14    | 131 | 4.50  | 114 | 5.11  | 130 | FSC23                                    |
| 300        | 200  | 9070T300D50  | 9070TF300D50  | 11.9   | 3.84   | 98  | 5.14    | 131 | 4.50  | 114 | 5.49  | 139 | FSC23                                    |
| 350        | 250  | 9070T350D50  | 9070TF350D50  | 11.0   | 4.51   | 115 | 5.81    | 148 | 5.25  | 133 | 5.61  | 143 | FSC23                                    |
| 500        | 300  | 9070T500D50  | 9070TF500D50  | 11.0   | 4.51   | 115 | 5.81    | 148 | 5.25  | 133 | 5.61  | 143 | FSC23                                    |
| 750        | 500  | 9070T750D50  | 9070TF750D50  | 20.6   | 4.51   | 115 | 5.81    | 148 | 5.25  | 133 | 6.3   | 160 | FSC23                                    |
| 1000       | 630  | 9070T1000D50 | 9070TF1000D50 | 34.0   | 6.17   | 157 | 7.47    | 190 | 7.06  | 179 | 5.92  | 150 | FSC23                                    |
| 1500       | 1000 | 9070T1500D50 | 9070TF1500D50 | 47.0   | 6.17   | 157 | 7.47    | 190 | 7.06  | 179 | 7.17  | 182 | FSC23                                    |
| 2000       | 1500 | 9070T2000D50 | 9070TF2000D50 | 60.0   | 7.63   | 194 | 8.93    | 227 | 9.00  | 229 | 6.38  | 162 | FSC23                                    |

**Table 14.35: 240 x 480 Vac Primary, 120/24 Vac Secondary (24 Vac limited to 20% of nameplate VA)**

| VA         |      | Type T       | Type TF | Weight | Height  |     |    |     | Width |     | Depth |     | Accesso-<br>ry<br>Finger-<br>safe<br>Covers |
|------------|------|--------------|---------|--------|---------|-----|----|-----|-------|-----|-------|-----|---------------------------------------------|
|            |      |              | Type T  |        | Type TF |     |    |     |       |     |       |     |                                             |
| UL/CSA/NOM | CE   | Catalog No.  | in.     |        | mm      | in. | mm | in. | mm    | in. | mm    |     |                                             |
| 50         | 50   | 9070T50D15   | —       | 2.5    | 2.58    | 66  | —  | —   | 3.00  | 76  | 3.09  | 79  | FSC1                                        |
| 75         | 75   | 9070T75D15   | —       | 3.8    | 2.89    | 73  | —  | —   | 3.38  | 86  | 3.34  | 85  | FSC1                                        |
| 100        | 100  | 9070T100D15  | —       | 3.8    | 2.89    | 73  | —  | —   | 3.38  | 86  | 3.34  | 85  | FSC1                                        |
| 150        | 150  | 9070T150D15  | —       | 5.5    | 3.20    | 81  | —  | —   | 3.75  | 95  | 3.59  | 91  | FSC1                                        |
| 200        | 200  | 9070T200D15  | —       | 5.5    | 3.20    | 81  | —  | —   | 3.75  | 95  | 3.59  | 91  | FSC1                                        |
| 250        | 160  | 9070T250D15  | —       | 7.1    | 3.20    | 81  | —  | —   | 3.75  | 95  | 5.30  | 135 | FSC2                                        |
| 300        | 200  | 9070T300D15  | —       | 8.5    | 3.84    | 98  | —  | —   | 4.50  | 114 | 4.74  | 120 | FSC2                                        |
| 350        | 250  | 9070T350D15  | —       | 10.5   | 3.84    | 98  | —  | —   | 4.50  | 114 | 5.11  | 130 | FSC2                                        |
| 500        | 300  | 9070T500D15  | —       | 11.9   | 3.84    | 98  | —  | —   | 4.50  | 114 | 5.49  | 139 | FSC2                                        |
| 750        | 500  | 9070T750D15  | —       | 11.0   | 4.51    | 115 | —  | —   | 5.25  | 133 | 5.61  | 143 | FSC2                                        |
| 1000       | 630  | 9070T1000D15 | —       | 20.6   | 4.51    | 115 | —  | —   | 5.25  | 133 | 6.30  | 160 | FSC2                                        |
| 1500       | 1000 | 9070T1500D15 | —       | 34.0   | 6.17    | 157 | —  | —   | 7.06  | 179 | 5.92  | 150 | FSC2                                        |
| 2000       | 1500 | 9070T2000D15 | —       | 47.0   | 6.17    | 157 | —  | —   | 7.06  | 179 | 7.17  | 182 | FSC2                                        |
| 3000       | 2000 | 9070T3000D15 | —       | 60.0   | 8.75    | 222 | —  | —   | 9.00  | 229 | 7.24  | 184 | FSC2                                        |
| 5000       | 3000 | 9070T5000D15 | —       | 89.0   | 8.75    | 222 | —  | —   | 9.00  | 229 | 9.15  | 232 | FSC2                                        |

**Table 14.36: Accessories**

| Catalog No. | Voltage Codes                                         |            |           | Description      | Order Qty |
|-------------|-------------------------------------------------------|------------|-----------|------------------|-----------|
| —           | D1, D2, D3, D4, D5, D13, D14, D15, D23, D31, D33, D37 | D20, D32   | D19, D50  | —                | —         |
| 9070FSC1    | T25–T200                                              | T25–T150   | —         | 2 covers per kit | 10        |
| 9070FSC2    | T250–T5000                                            | T250–T5000 | —         | 2 covers per kit | 10        |
| 9070FSC23   | —                                                     | —          | T25–T5000 | 2 covers per kit | 10        |

Table 14.37: 240 x 480 Vac Primary, 24 Vac Secondary

| VA         |     | Type T      | Weight | Height<br>Type T |     | Width |     | Depth |     | Accessory<br>Fingersafe<br>Covers |
|------------|-----|-------------|--------|------------------|-----|-------|-----|-------|-----|-----------------------------------|
| UL/CSA/NOM | CE  | Catalog No. |        | in.              | mm  | in.   | mm  | in.   | mm  |                                   |
| 50         | 50  | 9070T50D2   | 2.5    | 2.58             | 66  | 3.00  | 76  | 3.09  | 79  | FSC1                              |
| 75         | 75  | 9070T75D2   | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 100        | 100 | 9070T100D2  | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 150        | 150 | 9070T150D2  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 200        | 200 | 9070T200D2  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 250        | 160 | 9070T250D2  | 7.1    | 3.20             | 81  | 3.75  | 95  | 5.30  | 135 | FSC2                              |
| 300        | 200 | 9070T300D2  | 8.5    | 3.84             | 98  | 4.50  | 114 | 4.74  | 120 | FSC2                              |
| 350        | 250 | 9070T350D2  | 10.5   | 3.84             | 98  | 4.50  | 114 | 5.11  | 130 | FSC2                              |
| 500        | 300 | 9070T500D2  | 11.9   | 3.84             | 98  | 4.50  | 114 | 5.49  | 139 | FSC2                              |
| 750        | 500 | 9070T750D2  | 11.0   | 4.51             | 115 | 5.25  | 133 | 5.61  | 143 | FSC2                              |
| 1000       | 630 | 9070T1000D2 | 20.6   | 4.51             | 115 | 5.25  | 133 | 6.30  | 160 | FSC2                              |

Table 14.38: 208 Vac Primary, 24 Vac Secondary

| VA         |     | Type T       | Weight | Height<br>Type T |     | Width |     | Depth |     | Accessory<br>Fingersafe<br>Covers |
|------------|-----|--------------|--------|------------------|-----|-------|-----|-------|-----|-----------------------------------|
| UL/CSA/NOM | CE  | Catalog No.  |        | in.              | mm  | in.   | mm  | in.   | mm  |                                   |
| 50         | 50  | 9070T50D14   | 2.5    | 2.58             | 66  | 3.00  | 76  | 3.09  | 79  | FSC1                              |
| 75         | 75  | 9070T75D14   | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 100        | 100 | 9070T100D14  | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 150        | 150 | 9070T150D14  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 200        | 200 | 9070T200D14  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 250        | 160 | 9070T250D14  | 7.1    | 3.20             | 81  | 3.75  | 95  | 5.30  | 135 | FSC2                              |
| 300        | 200 | 9070T300D14  | 8.5    | 3.84             | 98  | 4.50  | 114 | 4.74  | 120 | FSC2                              |
| 350        | 250 | 9070T350D14  | 10.5   | 3.84             | 98  | 4.50  | 114 | 5.11  | 130 | FSC2                              |
| 500        | 300 | 9070T500D14  | 11.9   | 3.84             | 98  | 4.50  | 114 | 5.49  | 139 | FSC2                              |
| 750        | 500 | 9070T750D14  | 11.0   | 4.51             | 115 | 5.25  | 133 | 5.61  | 143 | FSC2                              |
| 1000       | 630 | 9070T1000D14 | 20.6   | 4.51             | 115 | 5.25  | 133 | 6.30  | 160 | FSC2                              |

Table 14.39: 120 x 240 Vac Primary, 24 Vac Secondary

| VA         |     | Type T       | Weight | Height<br>Type T |     | Width |     | Depth |     | Accessory<br>Fingersafe<br>Covers |
|------------|-----|--------------|--------|------------------|-----|-------|-----|-------|-----|-----------------------------------|
| UL/CSA/NOM | CE  | Catalog No.  |        | in.              | mm  | in.   | mm  | in.   | mm  |                                   |
| 50         | 50  | 9070T50D23   | 2.5    | 2.58             | 66  | 3.00  | 76  | 3.09  | 79  | FSC1                              |
| 75         | 75  | 9070T75D23   | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 100        | 100 | 9070T100D23  | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 150        | 150 | 9070T150D23  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 200        | 200 | 9070T200D23  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 250        | 160 | 9070T250D23  | 7.1    | 3.20             | 81  | 3.75  | 95  | 5.30  | 135 | FSC2                              |
| 300        | 200 | 9070T300D23  | 8.5    | 3.84             | 98  | 4.50  | 114 | 4.74  | 120 | FSC2                              |
| 350        | 250 | 9070T350D23  | 10.5   | 3.84             | 98  | 4.50  | 114 | 5.11  | 130 | FSC2                              |
| 500        | 300 | 9070T500D23  | 11.9   | 3.84             | 98  | 4.50  | 114 | 5.49  | 139 | FSC2                              |
| 750        | 500 | 9070T750D23  | 11.0   | 4.51             | 115 | 5.25  | 133 | 5.61  | 143 | FSC2                              |
| 1000       | 630 | 9070T1000D23 | 20.6   | 4.51             | 115 | 5.25  | 133 | 6.30  | 160 | FSC2                              |

Table 14.40: 120 Vac Primary, 12/24 Vac Secondary

| VA         |     | Type T       | Weight | Height<br>Type T |     | Width |     | Depth |     | Accessory<br>Fingersafe<br>Covers |
|------------|-----|--------------|--------|------------------|-----|-------|-----|-------|-----|-----------------------------------|
| UL/CSA/NOM | CE  | Catalog No.  |        | in.              | mm  | in.   | mm  | in.   | mm  |                                   |
| 50         | 50  | 9070T50D13   | 2.5    | 2.58             | 66  | 3.00  | 76  | 3.09  | 79  | FSC1                              |
| 75         | 75  | 9070T75D13   | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 100        | 100 | 9070T100D13  | 3.8    | 2.89             | 73  | 3.38  | 86  | 3.34  | 85  | FSC1                              |
| 150        | 150 | 9070T150D13  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 200        | 200 | 9070T200D13  | 5.5    | 3.20             | 81  | 3.75  | 95  | 3.59  | 91  | FSC1                              |
| 250        | 160 | 9070T250D13  | 7.1    | 3.20             | 81  | 3.75  | 95  | 5.30  | 135 | FSC2                              |
| 300        | 200 | 9070T300D13  | 8.5    | 3.84             | 98  | 4.50  | 114 | 4.74  | 120 | FSC2                              |
| 350        | 250 | 9070T350D13  | 10.5   | 3.84             | 98  | 4.50  | 114 | 5.11  | 130 | FSC2                              |
| 500        | 300 | 9070T500D13  | 11.9   | 3.84             | 98  | 4.50  | 114 | 5.49  | 139 | FSC2                              |
| 750        | 500 | 9070T750D13  | 11.0   | 4.51             | 115 | 5.25  | 133 | 5.61  | 143 | FSC2                              |
| 1000       | 630 | 9070T1000D13 | 20.6   | 4.51             | 115 | 5.25  | 133 | 6.30  | 160 | FSC2                              |

Table 14.41: 208/240/277/380/480 Vac Primary, 24 Vac Secondary

| VA         |     | Type T       | Weight | Height<br>Type T |     | Width |     | Depth |     | Accessory<br>Fingersafe<br>Covers |
|------------|-----|--------------|--------|------------------|-----|-------|-----|-------|-----|-----------------------------------|
| UL/CSA/NOM | CE  | Catalog No.  |        | in.              | mm  | in.   | mm  | in.   | mm  |                                   |
| 50         | 50  | 9070T50D19   | 4.0    | 2.89             | 106 | 3.38  | 86  | 3.34  | 85  | FSC23                             |
| 75         | 75  | 9070T75D19   | 5.5    | 2.89             | 106 | 3.38  | 86  | 3.34  | 85  | FSC23                             |
| 100        | 100 | 9070T100D19  | 5.5    | 3.20             | 114 | 3.75  | 95  | 3.59  | 91  | FSC23                             |
| 150        | 150 | 9070T150D19  | 5.5    | 3.20             | 114 | 3.75  | 95  | 3.59  | 91  | FSC23                             |
| 200        | 200 | 9070T200D19  | 8.5    | 3.20             | 114 | 3.75  | 95  | 5.30  | 135 | FSC23                             |
| 250        | 160 | 9070T250D19  | 10.5   | 3.84             | 130 | 4.50  | 114 | 4.74  | 120 | FSC23                             |
| 300        | 200 | 9070T300D19  | 10.5   | 3.84             | 130 | 4.50  | 114 | 5.11  | 130 | FSC23                             |
| 350        | 250 | 9070T350D19  | 11.9   | 3.84             | 130 | 4.50  | 114 | 5.49  | 139 | FSC23                             |
| 500        | 300 | 9070T500D19  | 11.0   | 4.51             | 147 | 5.25  | 133 | 5.61  | 143 | FSC23                             |
| 750        | 500 | 9070T750D19  | 20.6   | 4.51             | 147 | 5.25  | 133 | 6.30  | 160 | FSC23                             |
| 1000       | 630 | 9070T1000D19 | 34.0   | 6.17             | 190 | 7.06  | 179 | 5.92  | 150 | FSC23                             |



Transformer disconnects are available in NEMA Type 1 Standard, NEMA Type 12 Standard, and NEMA Type 1 Mini.

## Transformer Disconnects for NEMA Type 1 and Type 12 Enclosures

Square D™ brand transformer disconnects mount inside or outside a control system enclosure. The transformer disconnect being connected directly to the 480 Vac system controls power for auxiliary, single-phase loads when the main three-phase disconnect is either ON or OFF. The transformer disconnect is normally wired to the line side of the control panel's main disconnect.

This convenient source of 120 Vac power can be used for auxiliary or isolated loads, such as panel lighting, portable power tools, and programmable controller equipment.

Units consist of copper-wound transformers, a disconnect switch, and primary and secondary fuse blocks. All blocks are installed in NEMA Type 1 or Type 12 enclosures.

Transformer disconnects are UL Listed. Use Square D™ brand Type TF industrial control transformers and Square D™ brand disconnect switches.

Multiple enclosure options and accessories are available. See catalog 9070CT0301 or contact your local Schneider Electric representative or distributor.

- Standard NEMA Type 1
- Mini NEMA Type 1
- Compact NEMA Type 1
- NEMA Type 12

**Table 14.42: Transformer Disconnects**

| VA                                                                               | Catalog No.    | Catalog No.       | Enclosure | H     |     | W     |     | D     |     | Weight (lbs) |
|----------------------------------------------------------------------------------|----------------|-------------------|-----------|-------|-----|-------|-----|-------|-----|--------------|
|                                                                                  | Without Outlet | With Outlet       |           | in.   | mm  | in.   | mm  | in.   | mm  |              |
| NEMA Type 1 Enclosure, 240 x 480 Vac Primary, 120 Vac Secondary (Compact Design) |                |                   |           |       |     |       |     |       |     |              |
| 100                                                                              | 9070MN100G0D1  | 9070MN100G0D1G13  | G0        | 7.00  | 178 | 11.30 | 287 | 7.81  | 198 | 16           |
| 250                                                                              | 9070MN250G0D1  | 9070MN250G0D1G13  | G0        | 7.00  | 178 | 11.30 | 287 | 7.81  | 198 | 21           |
| 500                                                                              | 9070MN500G0D1  | 9070MN500G0D1G13  | G0        | 7.00  | 178 | 11.30 | 287 | 7.81  | 198 | 24           |
| 750                                                                              | 9070SK750G3D1  | 9070SK750G3D1G13  | G3        | 13.40 | 340 | 14.80 | 376 | 10.21 | 259 | 47           |
| 1000                                                                             | 9070SK1000G3D1 | 9070SK1000G3D1G13 | G3        | 13.40 | 340 | 14.80 | 376 | 10.21 | 259 | 51           |
| 1500                                                                             | 9070SK1500G3D1 | 9070SK1500G3D1G13 | G3        | 13.40 | 340 | 14.80 | 376 | 10.21 | 259 | 65           |
| 2000                                                                             | 9070SK2000G3D1 | 9070SK2000G3D1G13 | G3        | 13.40 | 340 | 14.80 | 376 | 10.21 | 259 | 71           |
| 3000                                                                             | 9070SK3000G3D1 | 9070SK3000G3D1G13 | G3        | 13.40 | 340 | 14.80 | 376 | 10.21 | 259 | 85           |
| NEMA Type 1 Enclosure, 240 x 480 Vac Primary, 120 Vac Secondary                  |                |                   |           |       |     |       |     |       |     |              |
| 250                                                                              | 9070SK250G1D1  | 9070SK250G1D1G13  | G1        | 9.40  | 239 | 11.80 | 300 | 8.96  | 228 | 26           |
| 500                                                                              | 9070SK500G1D1  | 9070SK500G1D1G13  | G1        | 9.40  | 239 | 11.80 | 300 | 8.96  | 228 | 28           |
| 750                                                                              | 9070SK750G1D1  | 9070SK750G1D1G13  | G1        | 9.40  | 239 | 11.80 | 300 | 8.96  | 228 | 33           |
| 1000                                                                             | 9070SK1000G1D1 | 9070SK1000G1D1G13 | G1        | 9.40  | 239 | 11.80 | 300 | 8.96  | 228 | 37           |
| 1500                                                                             | 9070SK1500G2D1 | 9070SK1500G2D1G13 | G2        | 13.40 | 340 | 14.80 | 376 | 12.21 | 310 | 67           |
| 2000                                                                             | 9070SK2000G2D1 | 9070SK2000G2D1G13 | G2        | 13.40 | 340 | 14.80 | 376 | 12.21 | 310 | 73           |
| 3000                                                                             | 9070SK3000G2D1 | 9070SK3000G2D1G13 | G2        | 13.40 | 340 | 14.80 | 376 | 12.21 | 310 | 87           |
| NEMA Type 1 Enclosure, 480 Vac Primary, 120 Vac Secondary                        |                |                   |           |       |     |       |     |       |     |              |
| 5000                                                                             | 9070SK5000G4D9 | 9070SK5000G4D9G13 | G4        | 16.90 | 429 | 18.20 | 462 | 14.50 | 368 | 125          |
| NEMA Type 12 Enclosure, 240 x 480 Vac Primary, 120 Vac Secondary                 |                |                   |           |       |     |       |     |       |     |              |
| 250                                                                              | 9070SK250A2D1  | 9070SK250A2D1G13  | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 46           |
| 500                                                                              | 9070SK500A2D1  | 9070SK500A2D1G13  | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 49           |
| 750                                                                              | 9070SK750A2D1  | 9070SK750A2D1G13  | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 53           |
| 1000                                                                             | 9070SK1000A2D1 | 9070SK1000A2D1G13 | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 58           |
| 1500                                                                             | 9070SK1500A2D1 | 9070SK1500A2D1G13 | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 79           |
| 2000                                                                             | 9070SK2000A2D1 | 9070SK2000A2D1G13 | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 85           |
| 3000                                                                             | 9070SK3000A2D1 | 9070SK3000A2D1G13 | A2        | 16.50 | 419 | 14.50 | 368 | 13.50 | 343 | 99           |
| NEMA Type 12 Enclosure, 240 x 480 Vac Primary, 120 Vac Secondary, Flange Switch  |                |                   |           |       |     |       |     |       |     |              |
| 250                                                                              | 9070SK250A3D1  | 9070SK250A3D1G13  | A3        | 15.50 | 394 | 17.00 | 432 | 10.00 | 254 | 48           |
| 500                                                                              | 9070SK500A3D1  | 9070SK500A3D1G13  | A3        | 15.50 | 394 | 17.00 | 432 | 10.00 | 254 | 53           |
| 750                                                                              | 9070SK750A3D1  | 9070SK750A3D1G13  | A3        | 15.50 | 394 | 17.00 | 432 | 10.00 | 254 | 57           |
| 1000                                                                             | 9070SK1000A3D1 | 9070SK1000A3D1G13 | A3        | 15.50 | 394 | 17.00 | 432 | 10.00 | 254 | 61           |
| 1500                                                                             | 9070SK1500A3D1 | 9070SK1500A3D1G13 | A3        | 15.50 | 394 | 17.00 | 432 | 10.00 | 254 | 75           |
| 2000                                                                             | 9070SK2000A3D1 | 9070SK2000A3D1G13 | A3        | 15.50 | 394 | 17.00 | 432 | 10.00 | 254 | 86           |

## Voltage Transformers

Schneider Electric offers three models of voltage transformers, each suited for a particular application:

- Model 450R
  - Applications requiring accurate voltage measurement within the 0.3% accuracy class
  - Switchboards with 1% instrumentation
- Model 460R
  - Applications with less critical accuracy and low burden requirements
  - Transducers and other panelboard monitoring
- Model 470R
  - Extremely accurate voltage measurement
  - Low burden applications, such as PLC modules and similar, high-impedance electronic devices

**Table 14.43: Voltage Transformers**

| Application  | Model Number | Accuracy/Burden and Thermal Rating | Primary Voltages (120 Vac Secondary) |
|--------------|--------------|------------------------------------|--------------------------------------|
| Large burden | 450R         | 0.3 W, X, M, Y; 500 VA Thermal     | 120–600 Vac                          |
| Small burden | 460R         | 0.6 W, 1.2X; 150 VA Thermal        | 120–600 Vac                          |
| Small burden | 470R         | 0.3W, 1.2X; 150 VA Thermal         | 120–600 Vac                          |

## Current Transformers

Current transformers are low cost, compact units that offer good electrical performance in a general purpose transformer.

- They are very easy to mount on the conductors.
- All current transformers feature permanent polarity marks molded into the case.

The following types of current transformers are available:

- General purpose
- Toroidal (single ratio)
- Rectangle window (single ratio)
- Split core
- Bushing (single ratio) (multi-ratio)

For part numbers, see Section 6 of the Supplemental Digest or see the Schneider Electric Product Configurator.

Contact your local Schneider Electric representative for other available features.

**Table 14.44: Current Transformers**

| Window Diameter |          | Model Number | Usual Application |                              |                      | Primary Range in Amperes [1] | UL Recognized Product |
|-----------------|----------|--------------|-------------------|------------------------------|----------------------|------------------------------|-----------------------|
| in.             | mm       |              | Metering          | Metering or Control Relaying | High Output Relaying |                              |                       |
| 1.3             | 28       | 2NR          | X                 | —                            | —                    | 50–300                       | Yes                   |
| 1.56            | 40       | 5NR          | X                 | —                            | —                    | 100–600                      |                       |
|                 |          | 54R          | X                 | —                            | —                    | 100–600                      |                       |
| 1.94            | 49       | 64R          | X                 | —                            | —                    | 100–750                      |                       |
|                 |          | 66R          | —                 | X                            | —                    | 100–750                      |                       |
| 2.25            | 57       | 7RL          | —                 | —                            | —                    | 50–1500                      |                       |
|                 |          | 7RT          | —                 | —                            | —                    | 50–1500<br>150–1500 [2]      |                       |
|                 |          | 74R          | X                 | —                            | —                    | 200–1500                     |                       |
| 2.34            | 59       | 76R          | —                 | X                            | —                    | 200–1500                     |                       |
|                 |          | 74RFT        | —                 | —                            | —                    | —                            |                       |
| 2.50            | 63       | 180R         | —                 | X                            | —                    | 100–1500                     |                       |
|                 |          | 200R         | —                 | X                            | —                    | 100–600                      |                       |
|                 |          | 201R         | —                 | X                            | —                    | 100–800                      |                       |
| 3.50            | 89       | 100R         | —                 | X                            | —                    | 200–2000                     |                       |
| 4.00            | 102      | 110R         | —                 | X                            | —                    | 200–2000                     |                       |
|                 |          | 170R         | —                 | X                            | —                    | 200–2000                     |                       |
| 4.50            | 114      | 312R         | —                 | —                            | X                    | 600–4000                     |                       |
|                 |          | 202R         | —                 | X                            | X                    | 100–1000                     |                       |
| 5.25            | 133      | 203R         | —                 | X                            | —                    | 100–3000                     |                       |
| 5.75            | 146      | 120R         | —                 | X                            | —                    | 200–3000                     |                       |
| 6.25            | 159      | 210R         | —                 | X                            | X                    | 200–3000                     |                       |
| 6.88            | 175      | 151R         | —                 | —                            | X                    | 600–4000                     |                       |
|                 |          | 152R         | —                 | X                            | X                    | 50–4000                      |                       |
| 8.13            | 206      | 140R         | —                 | X                            | X                    | 50–6000                      |                       |
| 2.12 x 4.25     | 54 x 108 | 260R         | X                 | —                            | —                    | 100–4000                     |                       |
| 3.50 x 6.25     | 89 x 159 | 273          | X                 | —                            | —                    | 200–4000                     |                       |
| 3.56 x 8.81     | 90 x 224 | 270R         | X                 | —                            | —                    | 400–5000                     |                       |
| 7.45 x 3.75     | 189 x 95 | 560R         | X                 | —                            | —                    | 400–5000                     |                       |

[1] With a 5 A secondary.

[2] With a 1 A secondary.

*New!*

## Medium Voltage Distribution Transformers

New! Revised Medium Voltage Transformer Energy Efficiency Information For 2016! In 2010 Schneider Electric released new efficiencies for MV transformers based on The Department of Energy (DOE) 10 CFR Part 431 Energy Conservation program for Commercial Equipment. We are now launching even more efficient transformers to further reduce energy consumption from MV transformers. Starting January 1, 2016 certain medium voltage distribution transformers with ratings of 2,500 kVA and below, 34.5 kV primary and below and 600 Vac class secondary voltages must meet revised minimum efficiency requirements. Liquid Filled Padmounts, Liquid Filled Substations, Dry Type VPI and Power Cast products shipped after January 1, 2016 will all be included. The minimum efficiency tables are listed below. Please contact your nearest Schneider Electric Sales Office for more information. Page 14-19 and 14-20 includes our updated offer.



Power Cast II<sup>TM</sup>



Liquid Filled Pad Mounted



Liquid Filled Substation



Power Dry II<sup>TM</sup>

**Table 14.45: New! Standard Efficiency Levels for Liquid Immersed Distribution Transformers**

| Single Phase |              | Three Phase |              |
|--------------|--------------|-------------|--------------|
| kVA          | Efficiency % | kVA         | Efficiency % |
| 10           | 98.7         | —           | —            |
| 15           | 98.82        | —           | —            |
| 25           | 98.95        | —           | —            |
| 37.5         | 99.05        | 45          | 98.92        |
| 50           | 99.11        | 75          | 99.03        |
| 75           | 99.19        | 112.5       | 99.11        |
| 100          | 99.25        | 150         | 99.16        |
| 167          | 99.33        | 225         | 99.23        |
| 250          | 99.39        | 300         | 99.27        |
| 333          | 99.43        | 500         | 99.35        |
| 500          | 99.49        | 750         | 99.4         |
| 667          | 99.52        | 1000        | 99.43        |
| 833          | 99.55        | 1500        | 99.48        |
| —            | —            | 2000        | 99.51        |
| —            | —            | 2500        | 99.53        |

All Efficiency values are at 50% of nameplate-rated load, determined according to the DOE Test Procedure 10 CFR 431, Subpart K, Appendix A.

**Table 14.46: New! Standard Levels for Medium Voltage Dry Type Distribution Transformers**

| kVA  | Single Phase                      |                                    |                                   | kVA   | Three Phase                       |                                    |                                   |
|------|-----------------------------------|------------------------------------|-----------------------------------|-------|-----------------------------------|------------------------------------|-----------------------------------|
|      | 20-45kV<br>BIL<br>Efficiency<br>% | 46-95 kV<br>BIL<br>Efficiency<br>% | > 96 kV<br>BIL<br>Efficiency<br>% |       | 20-45kV<br>BIL<br>Efficiency<br>% | 46-95 kV<br>BIL<br>Efficiency<br>% | > 96 kV<br>BIL<br>Efficiency<br>% |
| 15   | 98.1                              | 97.86                              | —                                 | 45    | 98.1                              | 97.86                              | —                                 |
| 25   | 98.33                             | 98.12                              | —                                 | 75    | 98.33                             | 98.13                              | —                                 |
| 37.5 | 98.49                             | 98.3                               | —                                 | 112.5 | 98.52                             | 98.36                              | —                                 |
| 50   | 98.6                              | 98.42                              | —                                 | 150   | 98.65                             | 98.51                              | —                                 |
| 75   | 98.73                             | 98.57                              | 98.53                             | 225   | 98.82                             | 98.69                              | 98.57                             |
| 100  | 98.82                             | 98.67                              | 98.63                             | 300   | 98.93                             | 98.81                              | 98.69                             |
| 167  | 98.96                             | 98.83                              | 98.8                              | 500   | 99.09                             | 98.99                              | 98.89                             |
| 250  | 99.07                             | 98.95                              | 98.91                             | 750   | 99.21                             | 99.12                              | 99.02                             |
| 333  | 99.14                             | 99.03                              | 98.99                             | 1000  | 99.28                             | 99.2                               | 99.11                             |
| 500  | 99.22                             | 99.12                              | 99.09                             | 1500  | 99.37                             | 99.3                               | 99.21                             |
| 667  | 99.27                             | 99.18                              | 99.15                             | 2000  | 99.43                             | 99.36                              | 99.28                             |
| 833  | 99.31                             | 99.23                              | 99.2                              | 2500  | 99.47                             | 99.41                              | 99.33                             |

**NOTE:** BIL means Basic Impulse Level.

**NOTE:** All Efficiency values are at 50% of nameplate-rated load, determined according to the DOE Test Procedure 10 CFR 431, Subpart K, Appendix A.

New!

**Dry Type Medium Voltage Transformers**

All transformers are built with 220 °C insulation and 150 °C temperature rise. For 115 °C rise add F to catalog number. For 80 °C rise add B to catalog number. For copper windings, add CU to the end of the part number. Check with factory to verify dimensional changes and weights for copper windings or alternate temperature rises.

Standard high voltage taps: 4-2.5%, 2AN and 2BN. For 4-2.5% FCBN, add BN to catalog number.

New!

**1,201–15,000 Vac Three-Phase Indoor Transformers**

See [Table 14.51 New! Enclosure Dimensions, page 14-24](#). Enclosures are for indoor use only. If outdoor enclosure is required, this is outside the scope of the digest, contact your local Schneider Electric Representative.

Lugs: Furnished by customer.

**Table 14.47: New! EX Three Phase Medium Voltage Transformers**

| kVA                                                   | Catalog No. | Minimum Efficiency @ 50% load | Weight (lbs) | Enclosure |
|-------------------------------------------------------|-------------|-------------------------------|--------------|-----------|
| <b>2.4 kV and 5 kV Voltage Class 60 Hz 150°C Rise</b> |             |                               |              |           |
| 112.5                                                 | EX112T( )H  | 98.52                         | 1200         | 50D       |
| 150                                                   | EX150T( )H  | 98.65                         | 1400         | 51D       |
| 225                                                   | EX225T( )H  | 98.82                         | 1900         | 51D       |
| 300                                                   | EX300T( )H  | 98.93                         | 2100         | 52D       |
| 500                                                   | EX500T( )H  | 99.09                         | 3000         | 52D       |
| 750                                                   | EX750T( )H  | 99.21                         | 5000         | 55F       |
| 1000                                                  | EX1000T( )H | 99.28                         | 6000         | 56F       |
| 1500                                                  | EX1500T( )H | 99.37                         | 8100         | 56F       |
| 2000                                                  | EX2000T( )H | 99.43                         | 11000        | 57F       |
| 2500                                                  | EX2500T( )H | 99.47                         | 13100        | 58F       |
| <b>15 kV Voltage Class 60 Hz 150°C Rise</b>           |             |                               |              |           |
| 112.5                                                 | EX112T( )H  | 98.36                         | 2000         | 52D       |
| 150                                                   | EX150T( )H  | 98.51                         | 2200         | 52D       |
| 225                                                   | EX225T( )H  | 98.69                         | 2800         | 53D       |
| 300                                                   | EX300T( )H  | 98.81                         | 3300         | 53D       |
| 500                                                   | EX500T( )H  | 98.99                         | 5000         | 54F       |
| 750                                                   | EX750T( )H  | 99.12                         | 6000         | 55F       |
| 1000                                                  | EX1000T( )H | 99.2                          | 7400         | 56F       |
| 1500                                                  | EX1500T( )H | 99.3                          | 9000         | 56F       |
| 2000                                                  | EX2000T( )H | 99.36                         | 11000        | 57F       |
| 2500                                                  | EX2500T( )H | 99.41                         | 13000        | 58F       |
| 3000                                                  | EX3000T( )H | —                             | 18000        | 58F       |

**Table 14.48: New! Three Phase Voltage Codes**

| kV Class         | Code | Primary     | Secondary |
|------------------|------|-------------|-----------|
| 2.4<br>30 kV BIL | 13   | 2400 Delta  | 208Y/120  |
|                  | 14   | 2400 Delta  | 480Y/277  |
|                  | 15   | 2400 Delta  | 240 Delta |
|                  | 16   | 2400 Delta  | 480 Delta |
|                  | 17   | 2400 Delta  | 600 Delta |
| 5<br>30 kV BIL   | 18   | 4160 Delta  | 208Y/120  |
|                  | 19   | 4160 Delta  | 480Y/277  |
|                  | 20   | 4160 Delta  | 240 Delta |
|                  | 21   | 4160 Delta  | 480 Delta |
|                  | 22   | 4160 Delta  | 600 Delta |
|                  | 23   | 4160Y/2400  | 240 Delta |
|                  | 25   | 4160Y/2400  | 480 Delta |
|                  | 26   | 4160/2400   | 600 Delta |
|                  | 27   | 4800 Delta  | 208Y/120  |
|                  | 28   | 4800 Delta  | 480Y/277  |
|                  | 29   | 4800 Delta  | 240 Delta |
|                  | 30   | 4800 Delta  | 480 Delta |
| 15<br>60 kV BIL  | 31   | 4800 Delta  | 600 Delta |
|                  | 32   | 7200 Delta  | 208Y/120  |
|                  | 33   | 7200 Delta  | 480Y/277  |
|                  | 34   | 7200 Delta  | 240 Delta |
|                  | 35   | 7200 Delta  | 480 Delta |
|                  | 36   | 7200 Delta  | 600 Delta |
|                  | 37   | 12000 Delta | 208Y/120  |
|                  | 38   | 12000 Delta | 480Y/277  |
|                  | 39   | 12000 Delta | 240 Delta |
|                  | 40   | 12000 Delta | 480 Delta |
|                  | 41   | 12000 Delta | 600 Delta |
|                  | 42   | 12470 Delta | 208Y/120  |
|                  | 43   | 12470 Delta | 480Y/277  |
|                  | 44   | 12470 Delta | 240 Delta |
|                  | 45   | 12470 Delta | 480 Delta |
|                  | 46   | 12470 Delta | 600 Delta |
|                  | 47   | 12470Y/7200 | 240 Delta |
|                  | 48   | 12470Y/7200 | 480 Delta |
|                  | 49   | 12470Y/7200 | 600 Delta |
|                  | 50   | 13200 Delta | 208Y/120  |
|                  | 51   | 13200 Delta | 480Y/277  |
|                  | 52   | 13200 Delta | 240 Delta |
|                  | 53   | 13200 Delta | 480 Delta |
|                  | 54   | 13200 Delta | 600 Delta |
|                  | 55   | 13200Y/7620 | 240 Delta |
|                  | 56   | 13200Y/7620 | 480 Delta |
|                  | 57   | 13200Y/7620 | 600 Delta |
|                  | 58   | 13800 Delta | 208Y/120  |
|                  | 59   | 13800 Delta | 480Y/277  |
|                  | 60   | 13800 Delta | 240 Delta |
|                  | 61   | 13800 Delta | 480 Delta |
|                  | 62   | 13800 Delta | 600 Delta |

All secondary voltages are at 10 KV BIL. (BIL means Basic Impulse Level).

To complete the three-phase catalog numbers on this page:

1. Select the voltage you require from the chart on the pricing page.
2. Insert the voltage code number in place of the ( ) in the catalog number.

Example 1: 1,000 kVA Energy Efficient, 3Ø, 60 Hz, 150°C temp. rise, 60 kV BIL, NEMA sound level, ventilated indoor enclosure, 13.2 kV delta 480Y/277, with 2-2.5% full capacity taps. 2AN and 2BN = EX1000T51H.

Example 2: 750 kVA Energy Efficient 3Ø, 60 Hz, 80°C temp. rise, 60 kV BIL, NEMA sound level, ventilated indoor enclosure, 4160 V Delta, 480Y/277, 2-2.5% full capacity taps. 2AN and 2BN = Part number EX750T19HB.

Example 3: 500 kVA Energy Efficient, 3Ø, 60 Hz, 115°C temp. rise, Copper Windings, 60 kV BIL, NEMA sound level, ventilated indoor enclosure, 12470 Vac delta, 208Y/120, with 2-2.5% full capacity taps. 2AN and 2BN = EX500T42BCU.

*New!*

## 1,201–15,000 Vac Single-Phase Indoor Transformers

**Table 14.49: New! EX Single Phase Medium Voltage Transformers**

| kVA                                           | Catalog No. | Minimum Efficiency @ 50% load | Weight (lbs) | Enclosure |
|-----------------------------------------------|-------------|-------------------------------|--------------|-----------|
| <b>2.4 kV Voltage Class 60 Hz 150 °C Rise</b> |             |                               |              |           |
| 167                                           | EX167S( )H  | 98.96                         | 1500         | 51D       |
| 250                                           | EX250S( )H  | 99.07                         | 2200         | 52D       |
| 333                                           | EX333S( )H  | 99.14                         | 2500         | 52D       |
| <b>5 kV Voltage Class 60 Hz 150 °C Rise</b>   |             |                               |              |           |
| 167                                           | EX167S( )H  | 99.07                         | 1500         | 52D       |
| 250                                           | EX250S( )H  | 99.14                         | 2400         | 52D       |
| 333                                           | EX333S( )H  | 99.22                         | 3000         | 53D       |
| <b>15 kV Voltage Class 60 Hz 150 °C Rise</b>  |             |                               |              |           |
| 167                                           | EX167S( )H  | 98.95                         | 2400         | 52D       |
| 250                                           | EX250S( )H  | 99.03                         | 3400         | 53D       |
| 333                                           | EX333S( )H  | 99.12                         | 4000         | 53D       |

Lugs: Furnished by customer.

**Table 14.50: New! Single Phase Voltage Codes**

| kV Class         | Code | Primary     | Secondary |
|------------------|------|-------------|-----------|
| 2.4<br>30 kV BIL | 14   | 2400 Delta  | 120/240   |
|                  | 25   | 2400 Delta  | 277       |
| 5<br>30 kV BIL   | 13   | 2400/4160Y  | 120/240   |
|                  | 15   | 4800 Delta  | 120/240   |
|                  | 16   | 4160 Delta  | 120/240   |
|                  | 24   | 2400/4160Y  | 277       |
|                  | 26   | 4800 Delta  | 277       |
|                  | 27   | 4160 Delta  | 277       |
|                  | 17   | 4160/7200Y  | 120/240   |
| 15<br>60 kV BIL  | 18   | 7200        | 120/240   |
|                  | 28   | 4160/7200Y  | 277       |
|                  | 29   | 7200        | 277       |
|                  | 19   | 7200/12470Y | 120/240   |
|                  | 20   | 7620/13200Y | 120/240   |
|                  | 21   | 12470       | 120/240   |
|                  | 22   | 13200       | 120/240   |
|                  | 23   | 13800       | 120/240   |
|                  | 30   | 7200/12470Y | 277       |
|                  | 31   | 7620/13200Y | 277       |
|                  | 32   | 12470       | 277       |
|                  | 33   | 13200       | 277       |
|                  | 34   | 13800       | 277       |

To complete the single-phase catalog numbers on this page:

1. Select the voltage you require from the chart on the pricing page.
2. Insert the voltage code number in place of the ( ) in the catalog number.

Example: 167 kVA Energy Efficient 1Ø 2400/4160Y-120/240 Vac, 1Ø 60 Hz unit is EX167S13H. The unit would be supplied with 2–2.5% above and 2–2.5% full capacity below normal taps on the primary.

New!

Transformer Enclosures

Table 14.51: New! Enclosure Dimensions

| Enclosure Number/ Style |   | Height |      | Width |      | Depth |      | Mounting | NEMA 3R             |
|-------------------------|---|--------|------|-------|------|-------|------|----------|---------------------|
|                         |   | in.    | mm   | in.   | mm   | in.   | mm   |          |                     |
| 50                      | D | 40.5   | 1029 | 36.5  | 927  | 21.75 | 552  | Floor    | n/a consult factory |
| 51                      | D | 51.5   | 1308 | 40.5  | 1029 | 26.5  | 673  | Floor    | n/a consult factory |
| 52                      | D | 66     | 1676 | 50.5  | 1283 | 32    | 813  | Floor    | n/a consult factory |
| 53                      | D | 80     | 2032 | 64    | 1626 | 44    | 1118 | Floor    | n/a consult factory |
| 54                      | F | 90     | 2286 | 72    | 1829 | 50    | 1270 | Floor    | n/a consult factory |
| 55                      | F | 90     | 2286 | 80    | 2032 | 50    | 1270 | Floor    | n/a consult factory |
| 56                      | F | 90     | 2286 | 90    | 2286 | 50    | 1270 | Floor    | n/a consult factory |
| 57                      | F | 100    | 2540 | 100   | 2540 | 60    | 1524 | Floor    | n/a consult factory |
| 58                      | F | 108    | 2743 | 108   | 2743 | 60    | 1524 | Floor    | n/a consult factory |

These dimensions are not for construction. Contact your local Schneider Electric sales office for certified prints.  
Special outdoor construction required for NEMA 3R applications. Contact your local Schneider Electric sales office for details.



Style D, NEMA 1 Rated



Style F—NEMA 1 Rated