Section 14
Transformers

General Purpose Dry Type
600 Volts and Below

Type T and Type TF

Medium Voltage
Distribution Transformer

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

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 Ttransformers. 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

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 ouput 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 simplifiy 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 coover windings, 115 or 80°C rise; Two solutions for haromínic 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 @ 35% 75°C	Full Capacity Taps	Degree C Temp. Rise	Insulation Class	%IZ	Sound Level dB	Weight (lbs) *[2]*	Enclosure*[3]*
480 Vac Delta Primary, Aluminum Windings									
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
600 Vac Delta Primary, Aluminum Windings									
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
208 Vac Delta Primary, Aluminum Windings*[4]*									
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
240 Vac Delta Primary, Aluminum Windings*[4]*									
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
480 Vac Delta Primary, Copper Windings									
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 @ 35% 75°C	Full Capacity Taps	Degree C Temp. Rise	Insulation Class	%IZ	Sound Level	Weight (lbs)*[2]*	Enclosure*[3]*
208 Vac Delta Primary, Aluminum Windings *[5]*									
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
480 Vac Delta Primary, Aluminum Windings									
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]*
480 Vac Delta Primary, Aluminum Windings									
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, reduct 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]*
480 V Delta Primary, 208Y/120 Secondary, Aluminum Windings									
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
480 V Delta Primary, 208Y/120 Secondary, Copper Windings									
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
480 V Delta Primary, 208Y/120 Secondary, Aluminum Windings									
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
480 V Delta Primary, 208Y/120 Secondary, Copper Windings									
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 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]*
480 Delta Primary, 208Y/120 Secondary, Aluminum Windings, 150°C Rise, 220C Insulation, K13 Listed									
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
480 Delta Primary, 208Y/120 Secondary, Copper Windings, 150°C Rise, 220C Insulation, K13 Listed									
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
480 Vac Delta Primary, 208Y/120 Secondary, Aluminum Winding, K4									
15	EXN15T3HNL	97.89%	6-2.5%2+4-	150	220	4.30%	39 dB	184	17M
30	EXN30T3HNL	98.23%	6-2.5%2+4-	150	220	3.15%	39 dB	324	18M
45	EXN45T3HNL	98.40%	6-2.5%2+4-	150	220	4.13%	39 dB	392	19M
75	EXN75T3HNL	98.60%	6-2.5%2+4-	150	220	5.21%	44 dB	527	20M
112.5	EXN112T3HNL	98.74%	6-2.5%2+4-	150	220	3.80%	44 dB	713	21M
150	EXN150T3HNL	98.83%	6-2.5%2+4-	150	220	3.37%	44 dB	1012	22M
480 Vac Delta Primary, 208Y/120 Secondary, Copper Winding, K4									
15	EXN15T3HCUNL	97.89%	6-2.5%2+4-	150	220	4.22%	39 dB	219	17M
30	EXN30T3HCUNL	98.23%	6-2.5%2+4-	150	220	4.23%	39 dB	358	18M
45	EXN45T3HCUNL	98.40%	6-2.5%2+4-	150	220	3.95%	39 dB	412	19M
75	EXN75T3HCUNL	98.60%	6-2.5%2+4-	150	220	4.15%	44 dB	548	20M
112.5	EXN112T3HCUNL	98.74%	6-2.5%2+4-	150	220	3.52%	44 dB	899	21M
150	EXN150T3HCUNL	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 @ 35% 75°C	Full Capacity Taps *[10]*	Degree C Temp. Rise	Insulation Class	%IZ	Sound Level dB	Weight (lbs) *[11]*	Enclosure*[12]*
240 x 480 Vac Primary, Aluminum Windings									
15	EE15S3H	97.70%	480 Vac 6-2.5% 2+4- 240 Vac 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 Efficiency @ 35% 75°C	Full Capacity Taps	Degree C Temp. Rise	Insulation Class	%IZ	Sound Level dB	Weight (lbs)*[11]*	Enclosure*[12]*
240 x 480 Vac Primary, 120 / 240 Vac Secondary, Aluminum Windings									
15	EE15S3HF	97.70%	480 Vac 6-2.5% 2+4- 240 Vac 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

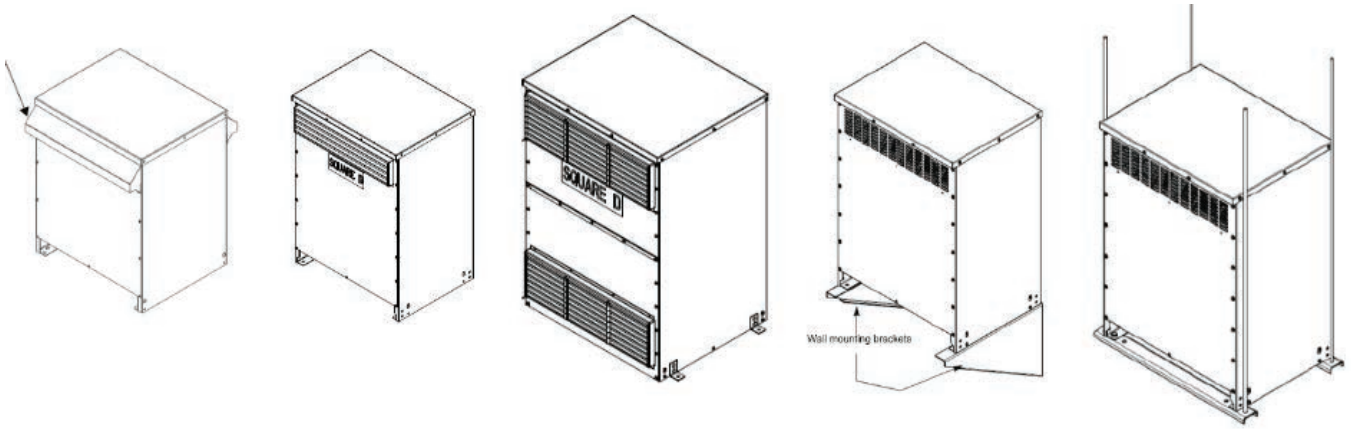
Style D and H—Type 2 Rated
Converts to Type 3R with Weathershield

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/ Style		Height		Width*[13]*		Depth		Mounting	Weathershield	Wall Mounting Bracket *[14]*	Ceiling Mounting Bracket *[15]*	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

[13] These dimensions are not for construction. Contact your local Schneider Electric.
[14] Wall mounting brackets are used with units weighing no more than 700 lbs.
[15] Ceiling mounting brackets are used with units weighing no more than 1200 lbs.

Class **7400** / Refer to Catalog **7400CT0601**

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 (2) 250 kcmil–1/0 STR	3/8 x 2 in.	201 to 400 A				
DASKP600	6	600 kcmil–4 STR (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 (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 15–45 3Ø	VCELSK1	8 5	VCEL02114S1 VCEL030516H1	#8–1/0 #4–300 kcmil	8 1	1/4 x 1 in. 1/4 x 2 in.
50–75 1Ø 75–112 ½ 3 Ø	VCELSK2	13	VCEL030516H1	#4–300 kcmil	8 8	1/4 x 1 in. 1/4 x 2 in.
100–167 1Ø 150–300 3Ø	VCELSK3	3	VCEL030516H1	#4–300 kcmil	3	1/4 x 3/4 in.
		26	VCEL07512H1	500–750 kcmil Al 500 kcmil Cu	16	3/8 x 2 in.
500 3Ø	VCELSK4	34	VCEL07512H1	500–750 kcmil Al 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 Buildling Code, Uniformed Building Code). Qualification based on tri-axial shake table test results conduced 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 Transformres)
- 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 Lables–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*[16]*	Enclosure	Weight (lbs)	Primary Main Circuit Breaker Rating (A)	Secondary Main Circuit Breaker Rating (A)	Spaces for Branch Circuit Breakers
Single Phase Unit Substation Input: 480 Vac, 18 kAIC; Output: 120 / 240 Vac							
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
Three-Phase Unit Substation Input: 480 Vac 18 kAIC; Output: 208Y / 120 Vac							
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*[16]*	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 you 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)*[17]*	Enclosure *[18]*	Catalog No.	Weight (lbs)*[17]*	Enclosure *[19]*	Catalog No.	Weight (lbs)*[17]*	Enclosure *[19]*	Full Capacity Taps*[20]*	Deg C Temp. Rise	Insulation Class
Three Phase—480 Vac Delta Primary 208Y/120 Vac Secondary, 60 Hz; UL/cULus Listed												
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
Three Phase—480 Vac Delta Primary 240 Vac Delta Secondary, 60 Hz; UL/cULus Listed												
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
Single Phase—240 x 480 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed												
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
Single Phase—480 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed												
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
Single Phase—600 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed												
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
Single Phase—208 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed												
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
Single Phase—277 Vac Primary 120/240 Vac Secondary, 60 Hz; UL/cULus Listed												
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) *[17]*	Enclosure*[19]*	600 Primary Catalog No.	Weight (lbs) *[17]*	Enclosure*[19]*	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.
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 3 kVA Buck Boost	115	180

Style A—Type 3R Rated

Style B—Type 3R Rated

Style C—Type 3R Rated

Style X—Type 4X Rated

3 kVA Buck Boost

Table 14.17: Enclosure Dimensions

Enclosure Number/ 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 you 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

Non-Ventilated and Transformer House

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

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) *[24]*	Enclosure *[25]*
480 Vac Delta Primary, Aluminum Windings								
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 *[23]*

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) *[24]*	Enclosure *[25]*
240 x 480 Vac Primary, Aluminum Windings								
15	15S3HNV	15S3HNVSS	480 Vac 6 - 2.5% 2+4- 240 Vac 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

[23] Lugs are furnished by customer.
[24] Not for construction, Contact your local Schneider Electric representative for certified prints.
[25] 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% Secondary Voltage	90% Secondary Voltage	85% Secondary Voltage	95% Secondary Voltage	90% Secondary Voltage	85% Secondary 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		Accesory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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	9070TF200D	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		Accesory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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		Accesory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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*[1]*	Weight	Height				Width		Depth		Accesory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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		Accessory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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		Accessory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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		Accessory Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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. midget 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. midget 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-ry Finger-safe 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		Accesso-ry Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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-ry Finger-safe Covers
					Type T		Type TF						
UL/CSA/NOM	CE	Catalog No.			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-ry Finger-safe 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 Type T		Width		Depth		Accesory Fingersafe 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 Type T		Width		Depth		Accesory Fingersafe 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 Type T		Width		Depth		Accesory Fingersafe 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 Type T		Width		Depth		Accesory Fingersafe 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 Type T		Width		Depth		Accesory Fingersafe 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 150–1500 *[2]*	
2.34	59	74R	X	—	—	200–1500	
		76R	—	X	—	200–1500	
2.50	63	74RFT	—	—	—	—	
		180R	—	X	—	100–1500	
		200R	—	X	—	100–600	
3.50	89	201R	—	X	—	100–800	
4.00	102	100R	—	X	—	200–2000	
		110R	—	X	—	200–2000	
4.25	108	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.

Power Cast II™

Liquid Filled Pad Mounted

Liquid Filled Substation

Power Dry II™

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.

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

Single Phase	
kVA	Efficiency %
10	98.7
15	98.82
25	98.95
37.5	99.05
50	99.11
75	99.19
100	99.25
167	99.33
250	99.39
333	99.43
500	99.49
667	99.52
833	99.55
—	—

Three Phase	
kVA	Efficiency %
—	—
—	—
45	98.92
75	99.03
112.5	99.11
150	99.16
225	99.23
300	99.27
500	99.35
750	99.4
1000	99.43
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 BIL Efficiency %	46-95 kV BIL Efficiency %	>/ 96 kV BIL Efficiency %		20-45kV BIL Efficiency %	46-95 kV BIL Efficiency %	>/ 96 kV BIL Efficiency %
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
2.4 kV and 5 kV Voltage Class 60 Hz 150°C Rise				
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
15 kV Voltage Class 60 Hz 150°C Rise				
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 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 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
	31	4800 Delta	600 Delta
15 60 kV BIL	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
2.4 kV Voltage Class 60 Hz 150 °C Rise				
167	EX167S( )H	98.96	1500	51D
250	EX250S( )H	99.07	2200	52D
333	EX333S( )H	99.14	2500	52D
5 kV Voltage Class 60 Hz 150 °C Rise				
167	EX167S( )H	99.07	1500	52D
250	EX250S( )H	99.14	2400	52D
333	EX333S( )H	99.22	3000	53D
15 kV Voltage Class 60 Hz 150 °C Rise				
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 30 kV BIL	14	2400 Delta	120/240
	25	2400 Delta	277
5 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
15 60 kV BIL	17	4160/7200Y	120/240
	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.


Style D, NEMA 1 Rated


Style F—NEMA 1 Rated

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.