Low Voltage Transformers Sealed, General Purpose, Dry Type

Catalog 7400CT9601R4/08

80

Class 7400



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Introduction

As the industry leading designer, manufacturer, and supplier of low voltage, general purpose transformers, Schneider Electric has the expertise necessary to meet your increased demands by providing reliable products and outstanding support services.



Sealed Transformers

Resin-Filled Transformers

Resin-filled general purpose transformers are epoxy encapsulated. The enclosure has no openings, making resin-filled transformers ideal for use indoor or outdoor where airborne particles or contaminants could be detrimental to operation. The core-and-coil assembly is embedded in an epoxy resin compound and wall mounted for maximum protection. These units can be used outdoors without accessories. Units are UL Listed and CSA Certified.

Public Law 109-58, the 2005 Energy Act, mandates that distribution transformers be energy efficient. However, resin-filled units are not included in this law; they are listed in Section (35)(B)(ii) as "a transformer that is designed to be used in a special purpose application and is unlikely to be used in general purpose application, such as ... sealed and non-ventilating transformer..."

Three-Phase Resin-Filled Transformers

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps ^a		
480 V Delta Pi	480 V Delta Primary to 208Y/120 V Secondary 60 Hz							
3	3T2F	12C		125	115	2-5% FCBN		
6	6T2F	12C	4 00 0000 17	150	115	2-5% FCBN		
9	9T2F	14C	4 on page 17	265	115	2-5% FCBN		
15	15T2F	14C		335	115	2-5% FCBN		
30	30T2F	16C	8 on page 17	775	115	2-5% FCBN		
480 V Delta Pi	rimary to 240 V D	elta Secondary 60 Hz						
3	3T5F	12C	F on nome 17	125	115	2-5% FCBN		
6	6T5F	12C	5 on page 17	150	115	2-5% FCBN		
9	9T75F	14C	Connega 17	265	115	4-2.5% FCBN		
15	15T75F	14C	6 on page 17	335	115	4-2.5% FCBN		
600 V Delta Pi	rimary to 208Y/12	0 Volts Secondary 60 Hz						
3	3T7F	12C		125	115	2-5% FCBN		
6	6T7F	12C	4 47	150	115	2-5% FCBN		
9	9T7F	14C	4 on page 17	265	115	2-5% FCBN		
15	15T7F	14C	1	335	115	2-5% FCBN		
30	30T7F	16C	8 on page 17	775	115	2-5% FCBN		

^a (FCBN) Full Capacity Taps Below Normal, where noted.

Single-Phase Resin-Filled Transformers

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps ^a
240 x 480	V Primary to 120/2	40 V Secondary 60 Hz			I.	<u>I</u>
0.050	50SV1A	1A		4.2	55	_
0.100	100SV1A	2A		4.5	55	_
0.150	150SV1A	3A		6.2	55	_
0.250	250SV1B	4A	-	10.5	80	_
0.500	500SV1B	5A		13.8	80	_
0.750	750SV1F	6A		15.5	115	_
1	1S1F	7A	1 on page 17	21.2	115	_
1.5	1.5S1F	8A		30.1	115	_
2	2S1F	9A		39.1	115	_
3	3S1F	10A		55.2	115	_
5	5S1F	13B		115	115	_
7.5	7S1F	13B		150	115	_
10	10S1F	13B		165	115	_
480 V Prir	mary to 120/240 V \$	Secondary 60 Hz			<u> </u>	
3	3S40F	10A		55.2	115	2-5% FCBN
5	5S40F	13B		115	115	2-5% FCBN
7.5	7S40F	13B		150	115	2-5% FCBN
10	10S40F	13B	7 on page 17	165	115	2-5% FCBN
15	15S40F	15B	1	320	115	2-5% FCBN
25	25S40F	15B	1	385	115	2-5% FCBN
600 V Prir	mary to 120/240 V \$	Secondary 60 Hz	Į.			I
0.050	50SV51A	1A		4.2	55	_
0.100	100SV51A	2A		4.5	55	_
0.150	150SV51A	3A		6.2	55	_
0.250	250SV51B	4A		10.5	80	_
0.200			2 on page 17	13.8	00	1
	500SV51B	5A	2 on page 17	13.0	80	_
0.500	500SV51B 750SV51F	5A 6A	2 on page 17	15.5	115	_
0.500 0.750			2 on page 17			_ _ _
0.500 0.750 1	750SV51F	6A	2 on page 17	15.5	115	_ _ _ _
0.500 0.750 1 1.5	750SV51F 1S51F	6A 7A	2 on page 17	15.5 21.2	115 115	_ _ _ _ _
0.500 0.750 1 1.5	750SV51F 1S51F 1.5S51F	6A 7A 8A	2 on page 17	15.5 21.2 30.1	115 115 115	
0.500 0.750 1 1.5 2	750SV51F 1S51F 1.5S51F 2S51F	6A 7A 8A 9A		15.5 21.2 30.1 39.1	115 115 115 115	
0.500 0.750 1 1.5 2 3	750SV51F 1S51F 1.5S51F 2S51F 2S51F 3S4F	6A 7A 8A 9A 10A	7 on page 17	15.5 21.2 30.1 39.1 55.2	115 115 115 115 115	
0.500 0.750 1 1.5 2 3 5	750SV51F 1S51F 1.5S51F 2S51F 2S51F 3S4F 5S4F	6A 7A 8A 9A 10A 13B		15.5 21.2 30.1 39.1 55.2 115	115 115 115 115 115 115	2-5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F	6A 7A 8A 9A 10A 13B 13B		15.5 21.2 30.1 39.1 55.2 115	115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5 10 120x240 \	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F	6A 7A 8A 9A 10A 13B		15.5 21.2 30.1 39.1 55.2 115	115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F / Primary to 120/24	6A 7A 8A 9A 10A 13B 13B 13B		15.5 21.2 30.1 39.1 55.2 115 150 165	115 115 115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5 10 120x240 \	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F / Primary to 120/24	6A 7A 8A 9A 10A 13B 13B 13B 0 V Secondary 60 Hz		15.5 21.2 30.1 39.1 55.2 115 150 165	115 115 115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5 10 120x240 \ 1 1.5	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F / Primary to 120/24 1S6F 1.5S6F	6A 7A 8A 9A 10A 13B 13B 0 V Secondary 60 Hz 7A 8A		15.5 21.2 30.1 39.1 55.2 115 150 165	115 115 115 115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5 10 120x240 \	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F / Primary to 120/24 1S6F 1.5S6F 2S6F	6A 7A 8A 9A 10A 13B 13B 13B 0 V Secondary 60 Hz 7A 8A 9A	7 on page 17	15.5 21.2 30.1 39.1 55.2 115 150 165 21.2 30.1 39.1	115 115 115 115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN
0.500 0.750 1 1.5 2 3 5 7.5 10 120x240 \ 1 1.5 2	750SV51F 1S51F 1.5S51F 2S51F 3S4F 5S4F 7S4F 10S4F / Primary to 120/24 1S6F 1.5S6F 2S6F 3S6F	6A 7A 8A 9A 10A 13B 13B 13B 0 V Secondary 60 Hz 7A 8A 9A 10A	7 on page 17	15.5 21.2 30.1 39.1 55.2 115 150 165 21.2 30.1 39.1 55.2	115 115 115 115 115 115 115 115 115 115	2–5% FCBN 2–5% FCBN

Single-Phase Resin-Filled Transformers (continued)

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps ^a
208 V Prim	ary to 120/240 V S	Secondary 60 Hz	l .			I.
1	1S7F	7A		21.2	115	_
1.5	1.5S7F	8A	1	30.1	115	_
2	2S7F	9A	2 on page 17	39.1	115	_
3	3S7F	10A		55.2	115	_
3	3S60F	10A	7 on page 17	55.2	115	2-5% FCB
5	5S7F	13B	2 on page 17	115	115	_
5	5S60F	13B	7 on page 17	115	115	2-5% FCB
7.5	7S7F	13B	2 on page 17	150	115	_
7.5	7S60F	13B	7 on page 17	150	115	2-5% FCB
10	10S7F	13B	2 on page 17	165	115	_
10	10S60F	13B		165	115	2-5% FCB
15	15S60F	15B	7 on page 17	320	115	2-5% FCB
25	25S60F	15B]	385	115	2-5% FCB
240 V Prim	ary to 120/240 Se	condary 60 Hz				
3	3S62F	10A		55.2	115	2-5% FCB
5	5S62F	13B]	115	115	2-5% FCB
7.5	7S62F	13B	7 00 0000 17	150	115	2-5% FCB
10	10S62F	13B	7 on page 17	165	115	2-5% FCB
15	15S62F	15B]	320	115	2-5% FCB
25	25S62F	15B		385	115	2–5% FCB
277 V Prim	ary to 120/240 V S	Secondary 60 Hz				
1	1S8F	7A		21.2	115	_
1.5	1.5S8F	8A	2 on page 17	30.1	115	_
2	2S8F	9A	2 on page 17	39.1	115	_
3	3S8F	10A		55.2	115	_
3	3S61F	10A	7 on page 17	55.2	115	2–5% FCB
5	5S8F	13B	2 on page 17	115	115	_
5	5S61F	13B	7 on page 17	115	115	2-5% FCB
7.5	7S8F	13B	2 on page 17	150	115	_
7.5	7S61F	13B	7 on page 17	150	115	2-5% FCB
10	10S8F	13B	2 on page 17	165	115	_
10	10S61F	13B		165	115	2-5% FCB
15	15S61F	15B	7 on page 17	320	115	2-5% FCB
25	25S61F	15B		385	115	2-5% FCB
480 V Prim	ary to 208 V Seco	ndary 60 Hz				
1	1S72F	7A		21.2	115	_
1.5	1.5S72F	8A]	30.1	115	_
2	2S72F	9A]	39.1	115	_
3	3S72F	10A	3 on page 17	55.2	115	_
5	5S72F	13B]	115	115	_
7.5	7S72F	13B]	150	115	
10	10S72F	13B		165	115	1

Single-Phase Resin-Filled Transformers (continued)

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps ^a
240 V Prim	ary to 208 V Seco	ndary 60 Hz	•	<u>.</u>	Į.	
1	1S1723F	7A		21.2	115	_
1.5	1.5S1723F	8A		30.1	115	_
2	2S1723F	9A		39.1	115	_
3	3S1723F	10A	3 on page 17	55.2	115	_
5	5S1723F	13B		115	115	_
7.5	7S1723F	13B		150	115	_
10	10S1723F	13B		165	115	_
480 V Prim	ary to 277 V Seco	ondary 60 Hz		•	•	
1	1S78F	7A		21.2	115	_
1.5	1.5S78F	8A		30.1	115	_
2	2S78F	9A		39.1	115	_
3	3S78F	10A	3 on page 17	55.2	115	_
5	5S78F	13B		115	115	_
7.5	7S78F	13B		150	115	_
10	10S78F	13B		165	115	_
208 V Prim	ary to 277 V Seco	ondary 60 Hz		•	•	
1	1S1292F	7A		21.2	115	_
1.5	1.5S1292F	8A	1	30.1	115	_
2	2S1292F	9A		39.1	115	_
3	3S1292F	10A	3 on page 17	55.2	115	_
5	5S1292F	13B	1	115	115	_
7.5	7S1292F	13B	1	150	115	_
10	10S1292F	13B	1	165	115	_

^a (FCBN) Full Capacity Taps Below Normal, where noted.

Sealed, Low Voltage Transformers Export Model Transformers

Export Model Transformers

Export model transformers are designed to accommodate voltage systems world-wide.

In addition to being UL Listed and CSA Certified, export model transformers 10kVA and smaller are certified by TUV (file no. E9571881.01) to meet EN standard EN60-742. Original equipment is eligible for the "CE" mark if transformer components meet the EN60-742 standard.

Single-Phase Export Model Transformers^a

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps
190/200/208	8/220 x 380/400/416	/440 V Primary to 110/220 V Se	condary 50/60 Hz		•	
1 ^b	1S67F	9A		21.2	115	_
2	2S67F	11A		39.1	115	_
3	3S67F	11A	0 00 0000 17	55.2	115	_
5	5S67F	13B	9 on page 17	135	115	_
7.5	7S67F	13B		165	115	_
10	10S67F	13B		165	115	_
380/400/41	5 V Primary to 120/2	240 V Secondary 50/60 Hz		•		
1 ^b	EN1S71F50HZ	7A		22.8	115	yes
1.5	EN1.5S71F50HZ	8A		32.4	115	yes
2	EN2S71F50HZ	9A		42.0	115	yes
3	EN3S71F50HZ	10A	7 on page 17	59.3	115	yes
5	EN5S71F50HZ	13B		123.6	115	yes
7.5	EN7S71F50HZ	13B	1	161.3	115	yes
10	EN10S71F50HZ	13B	1	177.4	115	yes

^a Units are UL Listed and CSA Certified. Eligible for the CE mark; contact the factory for details.

b 0.750 kVA EN rating.

Stainless Steel Enclosures

Stainless steel enclosures provide better corrosion resistance than standard painted enclosures. Schneider Electric offers an entire line of resin-filled transformers. They are available with #316 stainless steel enclosures to meet demands for extra protection in environments where harsh chemicals or corrosive materials such as acids, food products, gasoline, organic solvents, or salt water are present.

Square D[®] brand transformers with #316 stainless steel have a higher nickel content than #304 stainless steel, making them even more resistant to harsh environments.

Units are painted with standard ANSI 49 gray and have a NEMA Type 3R rating. Additional voltages are available. Contact your local Schneider Electric representative for details. NEMA 4X enclosures are also available; contact your local Schneider Electric representative for price and availability.

Three-Phase Stainless Steel Enclosures

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps ^a
480 V Prima	480 V Primary to 208Y/120 V Secondary 60 Hz					
3	3T2FSS	12C		125	115	2-5% FCBN
6	6T2FSS	12C		150	115	2-5% FCBN
9	9T2FSS	14C	4 on page 17	265	115	2-5% FCBN
15	15T2FSS	14C		335	115	2-5% FCBN
30	30T2FSS	16C	8 on page 17	775	115	2-5% FCBN

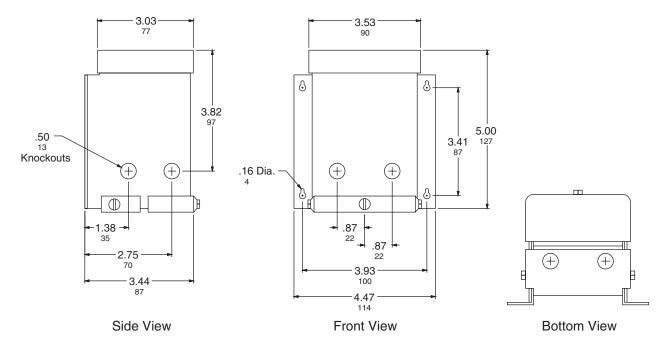
^a (FCBN) Full Capacity Taps Below Normal, where noted.

Single-Phase Stainless Steel Enclosures

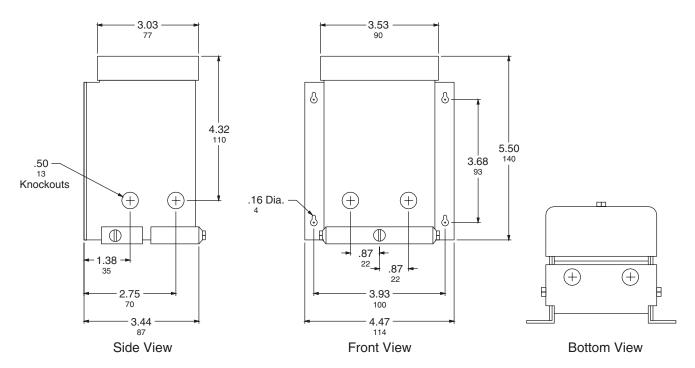
kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (lbs)	°C Rise	Full Capacity Taps ^a		
240 x 480 V D	240 x 480 V Delta Primary to 120/240 V Secondary 60 Hz							
1	1S1FSS	7A		21	115	_		
1.5	1.5S1FSS	8A]	30	115	_		
2	2S1FSS	9A]	39	115	_		
3	3S1FSS	10A	1	55.2	115	_		
5	5S1FSS	13B	1 on page 17	115	115	_		
7.5	7S1FSS	13B		150	115	_		
10	10S1FSS	13B		165	115	_		
15	15S1FSS	15B		320	115	_		
25	25S1FSS	15B	1	385	115	_		
480 V Delta P	rimary to 120/240	V Secondary 60 Hz			•			
3	3S40FSS	10A		55.2	115	2-5% FCBN		
5	5S40FSS	13B	1	115	115	2-5% FCBN		
7.5	7S40FSS	13B]	150	115	2-5% FCBN		
10	10S40FSS	13B	7 on page 17	165	115	2-5% FCBN		
15	15S40FSS	15B		320	115	2-5% FCBN		
25	25S40FSS	15B		385	115	2-5% FCBN		

^a (FCBN) Full Capacity Taps Below Normal, where noted.

Enclosure Diagrams and Accessories



Enclosure 1A—General Purpose Transformer: 0.05 kVA—120/240 V Secondary Current

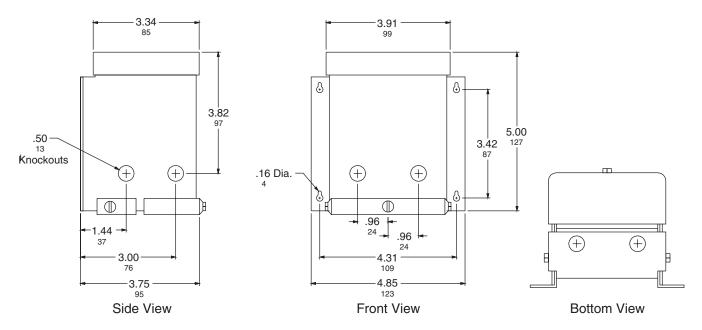


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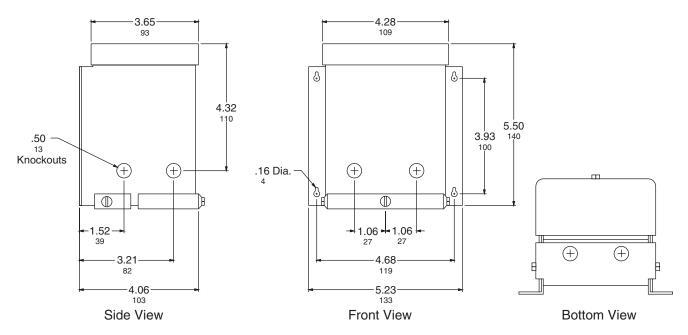
Enclosure 2A—General Purpose Transformer: 0.10 kVA—120/240 V Secondary Current

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Sealed, Low Voltage Transformers Enclosure Diagrams and Accessories

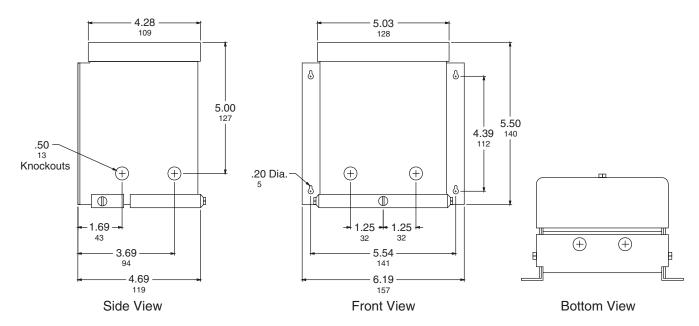


Enclosure 3A—General Purpose Transformer: 0.15 kVA—120/240 V Secondary Current

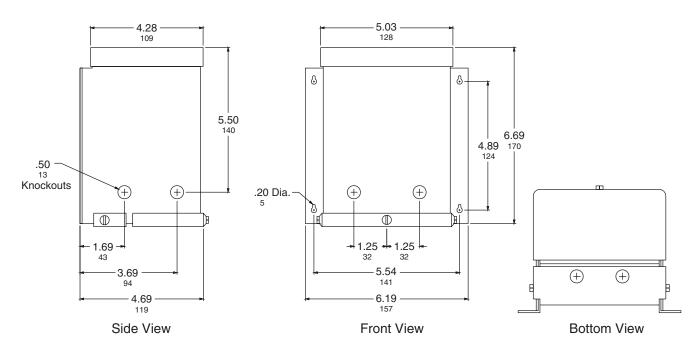


Enclosure 4A—General Purpose Transformer: 0.25 kVA—120/240 V Secondary Current

Sealed, Low Voltage Transformers Enclosure Diagrams and Accessories

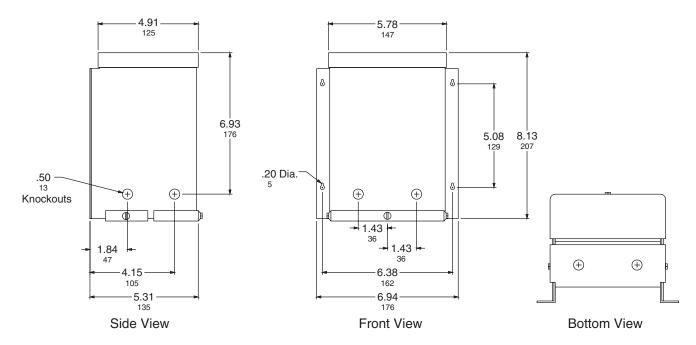


Enclosure 5A—General Purpose Transformer: 0.50 kVA—120/240 V Secondary Current

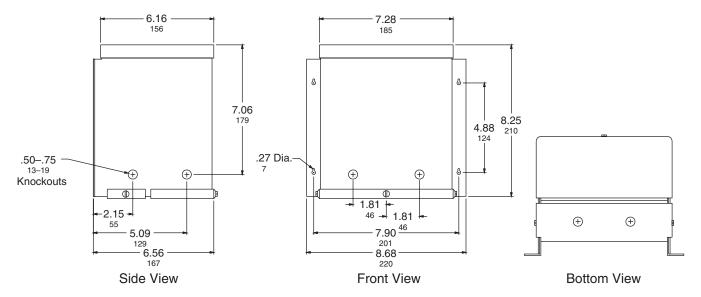


Enclosure 6A—General Purpose Transformer: 0.75 kVA—120/240 V Secondary Current

Sealed, Low Voltage Transformers Enclosure Diagrams and Accessories

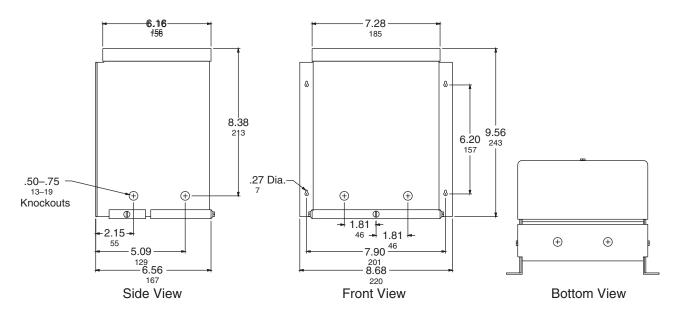


Enclosure 7A—General Purpose Transformer: 1.00 kVA—120/240 V Secondary Current

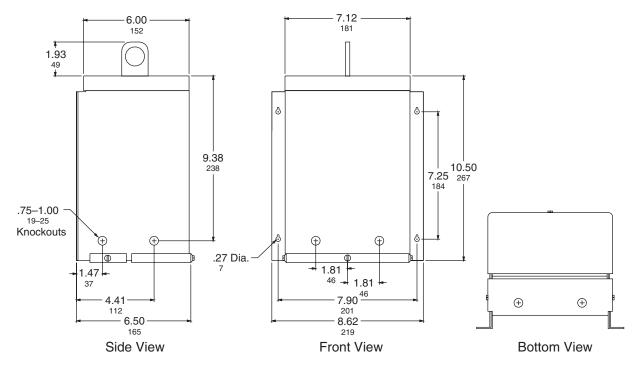


Enclosure 8A—General Purpose Transformer: 1.50 kVA—120/240 V Secondary Current

Sealed, Low Voltage Transformers Enclosure Diagrams and Accessories

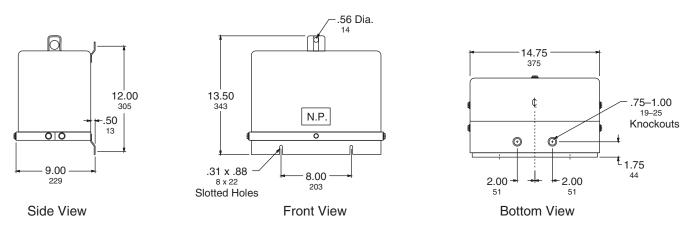


Enclosure 9A—General Purpose Transformer: 2.00 kVA—120/240 V Secondary Current

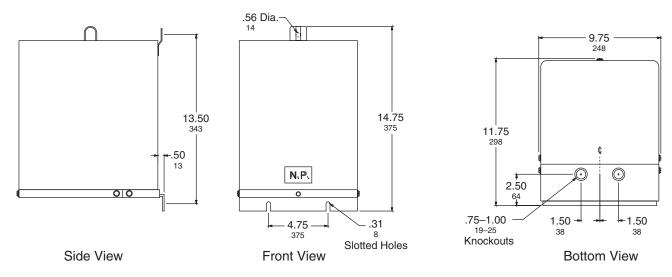


Enclosure 10A—General Purpose Transformer: 3.00 kVA—120/240 V Secondary Current

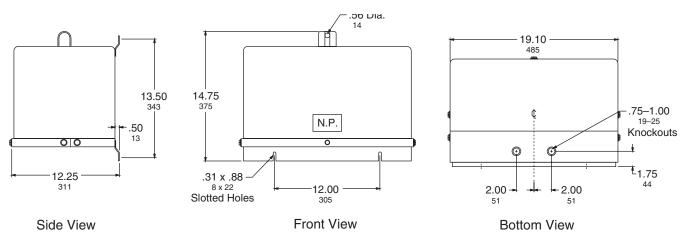
Sealed, Low Voltage Transformers Enclosure Diagrams and Accessories



Enclosure 12C—Dry Type Transformer: 3.00–6.00 kVA—Encapsulated NEMA Type 3R

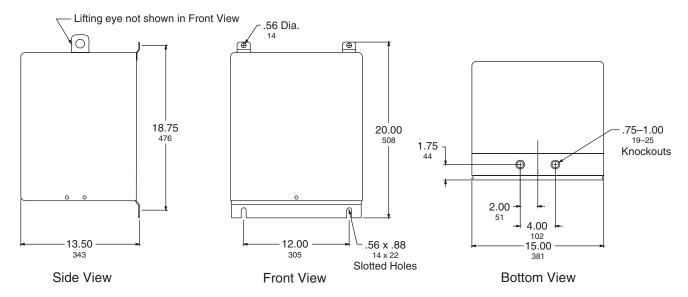


Enclosure 13B—General Purpose Transformer: 5.00-10.00 kVA—120/240 V Secondary Current

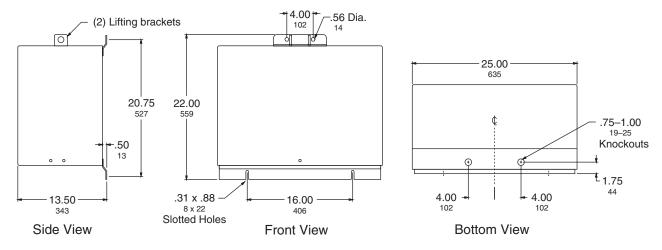


Enclosure 14C—Dry Type Transformer: 9.00-15.00 kVA—Encapsulated NEMA Type 3R

Sealed, Low Voltage Transformers Enclosure Diagrams and Accessories

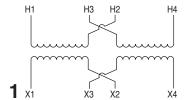


Enclosure 15B—General Purpose Transformer—Encapsulated NEMA Type 3R

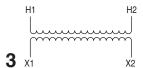


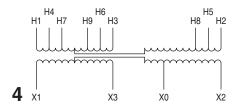
Enclosure 16C—Dry Type Transformer: 30.00 kVA—Encapsulated NEMA Type 3R

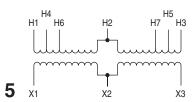
Wiring Diagrams

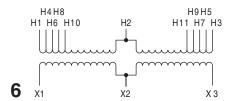


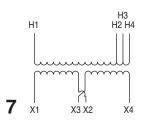


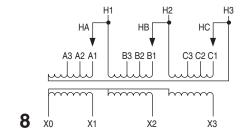


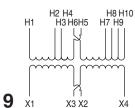










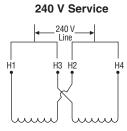


Application Data

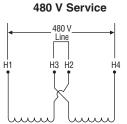
NOTE: For transformers with non-standard kVA ratings, increase the size to the next largest standard rating.

Single-Phase Connections—240 x 480 to 120/240 V

Primary Connections



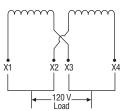
Connect H1 and H3 Connect H2 and H4 Connect lines to H1-H3 and H2-H4



Connect H3 and H2 Connect H1 and H4 Connect lines to H1 and H4

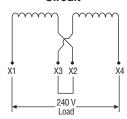
Secondary Connections





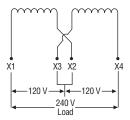
Connect X1 and X3 Connect X2 and X4 Connect Load to X1-X3 and X2-X4

240 V 2-Wire Circuit



Connect X3 and X2 Connect Load to X1 and X4

120/240 V 3-Wire Circuit



The junction of X3-X2 may be used as the neutral of a 3-wire system and must be bonded to the nearest earth ground per NEC requirements.

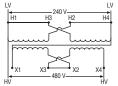
Sealed, Low Voltage Transformers Application Data

The following diagrams show special ways that standard 240 x 480-120/240 single phase transformers can be connected for special applications.

Single Unit Connected as Auto Transformer 240V to 480V

kVA Capacity = 2 x Nameplate kVA

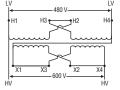
Load kVA = kVA Rating of 2 Transformer Required



Single Unit Connected as Auto Transformer 480V to 600V

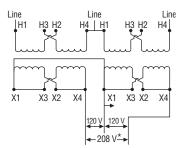
kVA Capacity = 5 x Nameplate kVA

Load kVA = kVA Rating of Transformer Required



Two unit transformers connected in "Hoppy Hookup" for single phase lighting and single phase power loads from three phase supply.

This connection allows changeover of existing single phase service to three phase service without changing existing lighting panels or secondary neutrals. The neutral current will be the same as with the original single phase service rather than increasing by the factor of 1.73 (= $\sqrt{3}$).



* Secondary voltage is 120/208 V, 3-wire only, NOT 120/240 V, 3-wire.

NOTE: The primary common current will be the $\sqrt{3}$ x the current in the other two lines.

For 480 V primary—Connect H2 to H3 in each unit

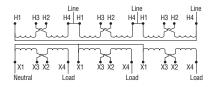
For 240 V primary—Connect H3 to H1 and H2 to H4 in each unit

Secondary kVA capacity = Total nameplate kVA of both transformers

Three Phase Connections

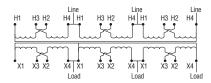
NOTE: For transformers with non-standard kVA ratings, increase the size to the next largest standard rating, using single phase 240×480 to 120/240.

Three Units Connected Delta-Wye



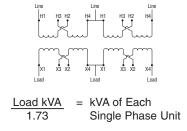
- For 480 V Delta primary—Connect H3 to H2 in each phase
- For 240 V Delta primary—Connect H3 to H1 and H2 to H4 in each phase
- For 416Y/240 V secondary—Connect X3 to X2 in each phase
- For 208Y/120 V secondary—Connect X3 to X1 and X2 to X4 in each phase
- Three phase kVA capacity = Total kVA of three units

Three Units Connected Delta-Delta



- For 480 V Delta primary—Connect H3 to H2 in each phase
- For 240 V Delta primary—Connect H3 to H1 and H2 to H4 in each phase
- For 240 V Delta secondary—Connect X3 to X2 in each phase
- For 120 V Delta secondary—Connect X3 to X1 and X2 to X4 in each phase
- Three phase kVA capacity = Total kVA of three units

Two Units Connected Open-Delta

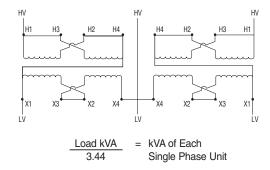


- For 480 V Delta primary—Connect H3 to H2 in each phase
- For 240 V Delta primary—Connect H3 to H1 and H2 to H4 in each phase
- For 240 V Delta secondary—Connect X3 to X2 in each phase
- For 120 V Delta secondary—Connect X3 to X1 and X2 to X4 in each phase
- Three Phase kVA capacity = Total kVA of Two units x 0.86

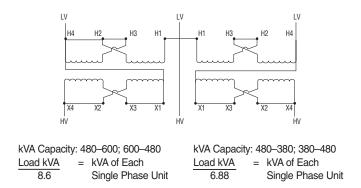
Sealed, Low Voltage Transformers Application Data

Two Units Connected as Open Delta Auto Transformer for Three Phase Operation for 240–480 or 480–240

kVA Capacity = (Total kVA of Both Units x 2) x .86

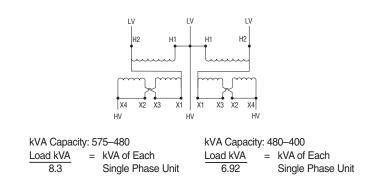


Two Units Connected as Open-Delta Auto Transformer for Three Phase Operation for 600–480, 480–600, 480–380, or 380–480



Two Units Connected as Open-Delta Auto Transformer for Three Phase Operation for 575–480 or 480–400

The following diagram shows special ways that standard 600–120/240 single phase transformers can be connected for special applications.



Specifications

Dry Type Resin Encapsulated Transformers (Sealed)

Part 1 General

1.01 Section Includes

A. Dry-type resin encapsulated distribution transformers with primary and secondary voltages up to 600 V, and capacity ratings from 3–30 kVA.

NOTE: Paragraphs and words marked in [] are alternates. Select only one.

1.02 References

- A. NFPA 70 National Electrical Code
- B. NEMA ST20
- C. UL 1561

1.03 Submittals

A. Suppliers asking consideration as an approved equal shall submit complete, warranted performance data and physical dimensions for similar transformers. Data shall be submitted for each size specified, and shall be received by the consultant engineer no less than 10 days prior to the bid due date for consideration.

1.04 Standards

- A. Transformers shall be listed by Underwriters Laboratories.
- B. Transformers shall conform to the requirements of ANSI/NFPA 70.
- C. Transformers are to be manufactured and tested in accordance with NEMA ST20.

Part 2 Products

2.01 Manufacturers

- A. Transformers shall be as manufactured by Schneider Electric or an approved equal.
- B. Approved manufacturers shall be registered firms in accordance with ISO 9001:1994 SIC 3612 (US); which is the design and manufacture of low voltage dry type power, distribution and specialty transformers.

2.02 Ratings Information

- A. All insulating materials are to exceed NEMA ST20 standards and be rated for a 180 °C UL-component-recognized insulation system.
- B. Transformers shall be [115 °C] [80 °C] temperature rise above 40 °C ambient. [80 °C] rise transformers shall be capable of carrying a continuous 15% overload without exceeding 115 °C rise in a 40 °C ambient. Transformers 25 kVA and larger shall have a minimum of four 2.5% full capacity primary taps. Exact voltages and taps are to be as designated on the plans or the transformer schedule.
- C. The maximum temperature of the top of the enclosure shall not exceed a 65 $^{\circ}$ C rise above a 40 $^{\circ}$ C ambient.
- D. The transformer(s) shall be rated as indicated in the following schedule:

Identification Number(s)

kVA Rating

Voltages

Phase

Frequency



2.03 Construction

- A. All cores are to be constructed of high-grade, non-aging silicon steel with high magnetic permeability and low hysteresis and eddy current losses. Magnetic flux densities are to be kept well below the saturation point.
- B. Terminations shall consist of wire leads with a minimum insulation rating of 125 °C.
- C. The transformer enclosures shall be non-ventilated and be fabricated of heavy gauge, sheet steel construction The entire enclosure shall be finished using a continuous process consisting of degreasing, cleaning, and phosphatizing by electrostatic deposition of polymer polyester powder coating, with a baking cycle to provide uniform coating of all edges and surfaces. The coating shall be UL recognized for outdoor use. The coating color shall be ANSI 49.

2.04 Sound Levels

A. Sound levels shall be warranted by the manufacturer not to exceed the following:

kVA Rating	dB Level
0–9	37
10–30	42
31–50	45
51–150	50
151–225	55

NOTE: Lower sound levels may be desirable for critical areas such as hospitals, schools, or office areas. Contact your local Schneider Electric representative for specific recommendations.

2.05 Optional Accessories

- A. [Provide #316 stainless steel enclosure]
- B. [Provide #304 stainless steel enclosure]
- C. [Label for Class 1 Division 2, Temperature Class T3]

Part 3 Execution

3.01 Installation

A. Not used

X-ON Electronics

Largest Supplier of Electrical and Electronic Components

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LU9M1 7D 7S 7XA1 FNQR2 8501RS44V24 8501RSD14P14V51 8501XO20V03Y414 9001KXRK 9001SKR9P35RH25 9001SKT35L31 9003K2C003GA 9007AA1 9007BA1 9007C54D 9007C62A2 9007CA11 9007FA3 9007HA4 9007HA6 9007KA1 9007KB11 9007MS01S0206 9007MS02S0300 9012GAR4 9012GAW2 9012GBW1 9012GDW5E3 9012GFW1 9012GNG1 9012GNG3 9012GNG6 9013FHG39J69 9013GHG2J30 9050JCK2F30V14 GV2ME04 GV2ME10 GV2ME14 GV2ME20 GV2ME32 GV2P06 GV2P08 GV2P10 GV2P16 GV2P20 GV2P21 GV2RT07 GV2RT21 GVAD1001 GVAN11