## Low Voltage Transformers Sealed, General Purpose, Dry Type

Catalog 7400CT9601R4/08



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..."

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (Ibs)	°C Rise	Full Capacity Taps <sup>a</sup>		
480 V Delta P	180 V Delta Primary to 208Y/120 V Secondary 60 Hz							
3	3T2F	12C		125	115	2–5% FCBN		
6	6T2F	12C	4 on page 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 P	rimary to 240 V D	elta Secondary 60 Hz				-		
3	3T5F	12C	E on page 17	125	115	2–5% FCBN		
6	6T5F	12C	5 on page 17	150	115	2–5% FCBN		
9	9T75F	14C	6 on page 17	265	115	4–2.5% FCBN		
15	15T75F	14C	o on page 17	335	115	4–2.5% FCBN		
600 V Delta P	rimary to 208Y/12	0 Volts Secondary 60 Hz						
3	3T7F	12C		125	115	2–5% FCBN		
6	6T7F	12C	4 an name 17	150	115	2–5% FCBN		
9	9T7F	14C	4 on page 17	265	115	2–5% FCBN		
15	15T7F	14C	]	335	115	2–5% FCBN		
30	30T7F	16C	8 on page 17	775	115	2–5% FCBN		

#### **Three-Phase Resin-Filled Transformers**

<sup>a</sup> (FCBN) Full Capacity Taps Below Normal, where noted.

# Sealed, Low Voltage Transformers Resin-Filled Transformers

#### Single-Phase Resin-Filled Transformers

240 x 480 V Primary to 120/240 V Secondary 60 Hz           0.000         00SV1A         1A         4.2         55            0.100         10SV1A         2A         6.2         55            0.150         150SV1A         3A         6.2         55            0.250         250SV1B         4A         6.2         55            0.500         50SV1F         6A         11         151F         7A         10.5         80            1.5         1.5S1F         8A         15.5         115             3         351F         10A         55.2         115             5         SS1F         138         0.1         115             10         10S1F         138         115         115             6         S40F         138         115         115         2-5% FCBN           10         10S40F         138         115         2-5% FCBN           10         10S40F         138         115         2-5% FCBN           115         16540         158	kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (Ibs)	°C Rise	Full Capacity Taps <sup>a</sup>
0.050         50SY1A         1A           0.100         100SV1A         2A           0.150         150SV1A         3A           0.250         250SV1B         4A           0.500         500SV1B         5A           0.500         500SV1F         6A           1         1S1F         7A           1.5         1.5S1F         8A           2         2S1F         9A           3         3S1F         10A           5         5S1F         138           7.5         7S1F         138           10         10SF         138           10         10SF         138           3         340F         10A           5         5S40F         138           7.5         7S40F         138           7.5         7S40F         138           15         15S40F         138           15         15S40F         138           2         2S40F         158           2         2S40F         158           2         2S40F         168           2         2S40F         168           100         1	240 x 480 V I	Primary to 120/24	0 V Secondary 60 Hz				
0.100         100SV1A         2A           0.150         150SV1A         3A           0.250         250SV1B         4A           0.500         500SV1B         5A           0.750         750SV1F         6A           1         1S1F         7A           1.5         1.SS1F         8A           2         2S1F         9A           3         3S1F         100A           5         5S1F         13B           7.5         7S1F         13B           10         10S1F         13B           7.5         7S1F         13B           7.5         7S1F         13B           7.5         7S40F         13B           10         10S40F         13B           15         15S40F         15B           15         15S40F         16S           15         15S40F         16S           160         115         2-5% FCBN           100 </td <td>0.050</td> <td>50SV1A</td> <td>1A</td> <td rowspan="2"></td> <td>4.2</td> <td>55</td> <td>—</td>	0.050	50SV1A	1A		4.2	55	—
0.150         1508V1A         3A           0.250         2508V1B         4A           0.500         5008V1F         6A           0.750         7508V1F         6A           1         1S1F         7A           1.5         1.5S1F         8A           2         2S1F         9A           3         3S1F         100A           5         5S1F         138           7.5         7S1F         138           10         10S1F         138           10         10S1F         138           3840F         10A           5         5S40F         138           7.5         7S40F         138           15         15S40F         158           15         15S40F         158           15         15S40F         168           160         105         2-5% FC8N           150         158         2-5% FC8N           150         165 </td <td>0.100</td> <td>100SV1A</td> <td>2A</td> <td>4.5</td> <td>55</td> <td>_</td>	0.100	100SV1A	2A		4.5	55	_
0.250260SV1B4A0.500500SV1B5A0.750760SV1F6A11S1F7A1.51S1F8A22S1F9A33S1F10A55S1F1387.57S1F1387.57S1F13810010S1F11510110S1F1387.57S40F1387.57S40F1381010S4F1381151552-5% FCBN1151580F1151151580F1381151580F1381151580F1381151580F1581151580F1581151580F1581151580F1581151580F1581151580F1581151580F1581151580F1681151580F1681151580161151580F3A1151581F7A1151581F7A1151581F7A1151581F7A1151581F7A1161151151161151151171151151181381192-5% FCBN1202581F6A1311551F7A13334F10A14<	0.150	150SV1A	3A		6.2	55	_
0.500         500 V1B         5.A           0.750         750 V1F         6.A           1         1S1F         7.A           1         1S1F         7.A           1.5         1.5S1F         8.A           2         2S1F         9.A           3         3S1F         10.A           5         5S1F         138           7.5         7S1F         138           10         1051F         138           3<840F	0.250	250SV1B	4A		10.5	80	_
0.750750 YIF6A1150 I151 I11SIF7A11111.51.5SIF8A30.111522SIF9A30.111533SIF10A55.211555SIF1381501157.57SIF138150115400 VPimary to 120/240 V Secondary 60 Hz15011533S40F10A55840F1381152-5% FCBN55840F1381151152-5% FCBN10108A0F1381151152-5% FCBN1515840F1581152-5% FCBN1515840F1581152-5% FCBN1515840F1581152-5% FCBN202505V51A1A11152-5% FCBN100100SV51A2A1152-5% FCBN050050SV51A1A1112-5% FCBN050050SV51B6A112-5% FCBN1515S45A1111515S51F6A11116150SV51B5A1111515S1F6A1111515S4F13871151- <td>0.500</td> <td>500SV1B</td> <td>5A</td> <td></td> <td>13.8</td> <td>80</td> <td>_</td>	0.500	500SV1B	5A		13.8	80	_
1         ISIF         7A         1 on page 17         21.2         115            1.5         1.5S1F         9A         30.1         115            3         3S1F         10A         55.2         115            5         SS1F         138         150          55.2         115            7.5         7S1F         138         150         115         115            3         3S40F         10A         5         55.40F         138          115         115         2-5% FCBN           7.5         7S40F         138          115         115         2-5% FCBN           10         10S40F         138         115         2-5% FCBN         115         2-5% FCBN           15         15S40F         138         115         2-5% FCBN         115         2-5% FCBN           15         15S40F         138         115         2-5% FCBN         115         2-5% FCBN           160         100V Primary to 20/240 V Secondary 60 Hz          115         2-5% FCBN         115         2-5% FCBN           0.500         50SV51A	0.750	750SV1F	6A		15.5	115	_
1.5         1.5S1F         8A           2         2S1F         9A           3         3S1F         10A           5         SS1F         13B           7.5         7S1F         13B           10         10S1F         13B           10         10S1F         13B           10         10S1F         13B           480 VPimmry to 120/240 V Secondary 60 Hz	1	1S1F	7A	1 on page 17	21.2	115	_
2         281F         9A           3         3S1F         10A           5         5S1F         13B           7.5         7S1F         13B           10         10S1F         13B           10         10S1F         13B           3         3K0F         10A           5         5S40F         13B           7.5         7S40F         13B           7.5         7S40F         13B           7.5         7S40F         13B           7.5         7S40F         13B           10         10S40F         13B           15         15S40F         115         2-5% FCBN           15         15S40F         13B         115         2-5% FCBN           16         15S40F         13B         115         2-5% FCBN           15         15S40F         13B         115         2-5% FCBN           160         10SV51A         3A         36         115         2-5% FCBN           0.50         50SV51A         1A         A         A         A         A         A         A         A         A         A         A         A         A	1.5	1.5S1F	8A		30.1	115	_
3         3S1F         10A           5         5S1F         13B           7.5         7S1F         13B           10         10S1F         13B           3         3S40F         10A           5         5S40F         13B           7.5         7S40F         13B           7.5         7S40F         13B           10         10S40F         13B           115         15S40F         13B           15         15S40F         13B           15         15S40F         13B           15         15S40F         15B           25         25S40F         15B           600 VPimurvt 0 20/240 V Secondary 60 Hz         320         115         2-5% FCBN           0.50         50SV51A         1A         385         115         2-5% FCBN           0.50         50SV51B         5A         -         4.2         55         -           0.100         100SV51A         2A         4.5         55         -           0.50         50SV51B         5A         -         4.5         55         -           0.50         50SV51B         5A         -	2	2S1F	9A		39.1	115	_
5         5S1F         13B         115         115            7.5         7S1F         13B         150         115         150         115            10         10S1F         13B         165         115             480 VPrimary to 120/240 V Secondary 60 Hz         -         165         115         2-5% FCBN           5         5S40F         13B         -         115         115         2-5% FCBN           7.5         7540F         13B         -         115         115         2-5% FCBN           10         10S40F         13B         -         115         2-5% FCBN           15         15540F         15B         -         155         2-5% FCBN           25         25840F         15B         -         165         115         2-5% FCBN           0.050         50SV51A         1A         -         320         115         2-5% FCBN           0.150         100SV51A         2A         -         4.5         55            0.150         100SV51A         3A         -         -         15.5         115         2-5% FCBN           0.50 </td <td>3</td> <td>3S1F</td> <td>10A</td> <td></td> <td>55.2</td> <td>115</td> <td>_</td>	3	3S1F	10A		55.2	115	_
7.5         7S1F         13B         150         115            10         10S1F         13B         165         115            480 VPimary to 120/240 V Secondary 60 Hz         -         -         -         -           3         3S40F         10A         -         -         -           5         5540F         13B         -         115         115         2-5% FCBN           7.5         7S40F         13B         115         115         2-5% FCBN           15         15840F         15B         -         165         115         2-5% FCBN           25         2540F         15B         -         165         115         2-5% FCBN           26         2540F         15B         365         115         2-5% FCBN           26         2540F         15B         365         115         2-5% FCBN           26         250V51A         1A         4         2         55            0.100         100SV51A         2A         4.5         55            0.500         500SV51B         5A         -         10.5         10.5         6A	5	5S1F	13B		115	115	_
10         10S1F         13B         165         115            480 V Primary to 120/240 V Secondary 60 Hz	7.5	7S1F	13B		150	115	_
480 V Primary to 120/240 V Secondary 60 Hz           3         3540F         10A           5         5840F         13B           7.5         7840F         13B           10         10840F         13B           15         1580F         13B           15         15840F         13B           15         15840F         15B           25         2540F         15B           600 V Primary to 120/240 V Secondary 60 Hz         320         115         2-5% FCBN           600 V Primary to 120/240 V Secondary 60 Hz         320         115         2-5% FCBN           600 V Sol 50 SV51A         1A         4.2         55            0.100         100SV51A         2A         4.2         55            0.150         150SV51A         3A         4A         6.2         55            0.150         10SV51A         3A         4A         6.2         55            0.150         150SV51B         6AA         10.5         80            1.5         1.5S1F         6A         115          21.2         115            1.5 <td< td=""><td>10</td><td>10S1F</td><td>13B</td><td></td><td>165</td><td>115</td><td>_</td></td<>	10	10S1F	13B		165	115	_
3         3840F         10A         55.2         115         2-5% FCBN           5         5840F         13B         10         10840F         13B         115         115         2-5% FCBN           10         10840F         13B         15         15840F         116         115         2-5% FCBN           15         15840F         15B         115         2-5% FCBN         385         115         2-5% FCBN           25         25840F         15B         385         115         2-5% FCBN           0050         50SV51A         16B         385         115         2-5% FCBN           0.050         50SV51A         1A         4.2         55            0.100         100SV51A         2A         4.5         55            0.500         500SV51B         5A         4.5         55            0.500         500SV51B         5A         10.5         80            1.5         15S1F         6A         115          21.2         115            2         2S51F         9A         30.1         115          -           2<	480 V Prima	ry to 120/240 V S	econdary 60 Hz				
5         5840F         138         7.5         7840F         138         7 on page 17         115         115         2-5% FCBN           10         10540F         138         15         150         115         2-5% FCBN           15         15840F         158         320         115         2-5% FCBN           25         25840F         158         320         115         2-5% FCBN           600 V Primary to 120/240 V Secondary 60 Hz         320         115         2-5% FCBN           0.050         505V51A         1A         4         5            0.100         100SV51A         2A         4.5         55            0.150         150SV51A         3A         4.4         55            0.500         500SV51B         5A         -         6.2         55            0.501         100SV51A         3A         -         10.5         80            0.502         50SV51B         5A         -         -         13.8         80            1.5         1.5S1F         6A         -         15.5         115         -<-5% FCBN	3	3S40F	10A		55.2	115	2–5% FCBN
7.5         7840F         138         7 on page 17           10         10840F         138         165         115         2-5% FCBN           15         15840F         158         320         115         2-5% FCBN           25         25840F         158         385         115         2-5% FCBN           600 V Primary to 120/240 V Secondary 60 Hz         385         115         2-5% FCBN           0.050         508V51A         1A         4.5         55            0.100         1005V51A         2A         4.5         55            0.150         150SV51A         2A         4.5         55            0.150         150SV51B         5A         -         6.2         55            0.150         50SV51B         6A         1         1.5         80            1.50         1.5S1F         6A         1         1.5         115            1.1         1851F         7A         1         1.5         115            2         2S51F         9A         30.1         115         2-5% FCBN           3         3S4F <td< td=""><td>5</td><td>5S40F</td><td>13B</td><td></td><td>115</td><td>115</td><td>2–5% FCBN</td></td<>	5	5S40F	13B		115	115	2–5% FCBN
10         10840F         13B         7 01 page 17         165         115         2-5% FCBN           15         15840F         15B         320         115         2-5% FCBN           25         25840F         15B         385         115         2-5% FCBN           600 V Primary to 120/240 V Secondary 60 Hz         385         115         2-5% FCBN           0.050         50SV51A         1A         4.2         55            0.100         100SV51A         2A         4.5         55            0.150         150SV51A         3A         4.5         55            0.250         250SV51B         4A         6.2         55            0.500         500SV51B         5A         7         115.5         115            1         1851F         7A         15.5         115            1.5         1.5S51F         8A          30.1         115            2         2S51F         9A         7 on page 17         39.1         115            3         3S4F         10A         7 on page 17         150         115	7.5	7S40F	13B	7 17	150	115	2–5% FCBN
15         15840F         15B           25         25840F         15B         320         115         2-5% FCBN           600 V Primary to 120/240 V Secondary 60 Hz         385         115         2-5% FCBN           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         6.2         55            0.500         500SV51F         6A         10.5         80            0.750         750SV51F         6A         15.5         115            1.         1851F         7A         15.5         115            1.5         1.5S51F         8A          30.1         115            2         2S51F         9A          30.1         115            3         3S4F         10A         -         -         30.1         115         2-5% FCBN           10         10S4F         13B         13B	10	10S40F	13B	7 on page 17	165	115	2–5% FCBN
25         25S40F         15B         385         115         2-5% FCBN           600 V Primery to 120/240 V Secondary 60 Hz	15	15S40F	15B		320	115	2–5% FCBN
600 V Primary to 120/240 V Secondary 60 Hz           0.050         50SV51A         1A           0.100         100SV51A         2A           0.150         150SV51A         3A           0.250         250SV51B         4A           0.500         500SV51B         5A           0.750         750SV51F         6A           1         1S51F         7A           1.5         1.SS51F         8A           2         2S51F         9A           3         3K4F         10A           5         5K4F         13B           7.5         7K4F         13B           10         10S4F         7A           10         10S4F         9A           3         3K4F         10A           5         5K4F         13B           7.5         7K4F         13B           10         10S4F         13B           11         1S6F         7A           12         2.5% FCBN           150         115         2-5% FCBN           165         115         2-5% FCBN           165         115         2-5% FCBN           165         1	25	25S40F	15B		385	115	2–5% FCBN
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            0.500         500SV51B         5A         10.5         80            0.750         750SV51F         6A         15.5         115            1         1S51F         7A         21.2         115            1.5         1.5S51F         8A         30.1         115            2         2S51F         9A         30.1         115            3         3S4F         10A          39.1         115            5         5S4F         13B          39.1         115         2-5% FCBN           10         10S4F         13B         165         115         2-5% FCBN           15         1.5S6F         8A          30.1         115            15         2S6F	600 V Prima	ry to 120/240 V S	econdary 60 Hz				
0.100         100SV51A         2A           0.150         150SV51A         3A           0.250         250SV51B         4A           0.500         500SV51B         5A           0.750         750SV51F         6A           1         1S51F         7A           1.5         1.5S51F         8A           2         2S51F         9A           3         3S4F         10A           5         5S4F         13B           7.5         7S4F         13B           10         10S4F         13B           10         10S4F         13B           11         1S6F         7A           10         10S4F         13B           10         10S4F         13B           11         1S6F         7A           1.5         1.5S6F         8A           2         2S6F         9A           3         3S6F         10A           2         2S6F         9A           3         3S6F         10A           5         5S6F         13B           7.5         7S6F         13B           7.5         7S6F </td <td>0.050</td> <td>50SV51A</td> <td>1A</td> <td></td> <td>4.2</td> <td>55</td> <td>_</td>	0.050	50SV51A	1A		4.2	55	_
0.150         150SV51A         3A           0.250         250SV51B         4A           0.500         500SV51B         5A           0.750         750SV51F         6A           1         1S51F         7A           1.5         1.5S51F         8A           2         2S51F         9A           3         3S4F         10A           5         5S4F         13B           7.5         7S4F         13B           10         10S4F         13B           10         10S4F         13B           11         1S6F         7A           10         10S4F         13B           11         1S6F         7A           11         1S6F         7A           11         1S6F         7A           10         10S4F         13B           115         115         2-5% FCBN           115         115         2-5% FCBN           116         115         2-5% FCBN           116         115         2-5% FCBN           116         115         2-5% FCBN           116         115            15	0.100	100SV51A	2A		4.5	55	_
0.250         250SV51B         4A           0.500         500SV51B         5A           0.750         750SV51F         6A           1         1S51F         7A           1.5         1.5S51F         8A           2         2S51F         9A           3         3S4F         10A           5         5S4F         13B           7.5         7S4F         13B           10         10S4F         13B           10         10S4F         13B           10         10S4F         13B           11         1S6F         7A           11         1S6F         7A           10         10S4F         13B           10         10S4F         13B           115         115         2-5% FCBN           165         115	0.150	150SV51A	3A		6.2	55	_
0.500         508V51B         5A         2 on page 17         13.8         80            0.750         7508V51F         6A         15.5         115            1         1851F         7A         21.2         115            1.5         1.5851F         8A         21.2         115            2         2851F         9A         30.1         115            3         384F         10A          39.1         115         2-5% FCBN           5         584F         13B          150         115         2-5% FCBN           10         1084F         13B         115         115         2-5% FCBN           10         1084F         13B         165         115         2-5% FCBN           120x240 V Primary to 120/240 V Secondary 60 Hz         165         115         2-5% FCBN           1         156F         8A          30.1         115            1.5         1.586F         8A         -         30.1         115            2         286F         9A         -         39.1         115	0.250	250SV51B	4A		10.5	80	_
0.750         750SV51F         6A           1         1S51F         7A           1.5         1.5S51F         8A           2         2S51F         9A           3         3S4F         10A           5         5S4F         13B           7.5         7S4F         13B           10         10S4F         13B           10         10S4F         13B           11         150         115           150         115         2-5% FCBN           10         10S4F         13B           10         10S4F         13B           11         150         115         2-5% FCBN           150         115         2-5% FCBN           165         115         2-5% FCBN           150         108F         7A           15         150         115         2-5% FCBN           150         115         2-5% FCBN           165         115         2-5% FCBN           165         115            150         115            150         115            150         115	0.500	500SV51B	5A	2 on page 17	13.8	80	_
1         1S51F         7A         21.2         115            1.5         1.5S51F         8A         30.1         115            2         2S51F         9A         39.1         115            3         3S4F         10A $55.2$ 115         2-5% FCBN           5         5S4F         13B $7 \text{ on page 17}$ 115         115         2-5% FCBN           10         10S4F         13B $7 \text{ on page 17}$ 115         115         2-5% FCBN           10         10S4F         13B $7 \text{ on page 17}$ 115         115         2-5% FCBN           10         10S4F         13B $7 \text{ on page 17}$ 150         115         2-5% FCBN           10         10S4F         13B $7 \text{ on page 17}$ 150         115         2-5% FCBN           110         10S4F         13B $7 \text{ on page 17}$ 165         115 $$ 15         1.5S6F         8A $30.1$ 115 $$ 2         2S6F         9A $30.1$ 115 $$ 30.1	0.750	750SV51F	6A		15.5	115	_
1.5 $1.5S51F$ $8A$ $30.1$ $115$ $$ $2$ $2S51F$ $9A$ $30.1$ $115$ $$ $3$ $3S4F$ $10A$ $7  on page 17$ $55.2$ $115$ $2-5%$ FCBN $5$ $5S4F$ $13B$ $7  on page 17$ $115$ $115$ $2-5%$ FCBN $7.5$ $7S4F$ $13B$ $7  on page 17$ $115$ $115$ $2-5%$ FCBN $10$ $10S4F$ $13B$ $7  on page 17$ $115$ $115$ $2-5%$ FCBN $10$ $10S4F$ $13B$ $7  on page 17$ $165$ $115$ $2-5%$ FCBN $10$ $10S4F$ $13B$ $7  on page 17$ $165$ $115$ $5%$ FCBN $10$ $10S4F$ $7A$ $30.1$ $115$ $5%$ $5%$ $15$ $1.5S6F$ $8A$ $30.1$ $115$ $5%$ $5%$ $2$ $2S6F$ $9A$ $39.1$ $115$ $5%$ $5%$ $-5%$ $-5%$ $-5%$ $-5.2$ $115$ $5%$	1	1S51F	7A		21.2	115	_
22S51F9A39.1115—33S4F10A $39.1$ 1152-5% FCBN55S4F13B $7 \text{ on page 17}$ 1151152-5% FCBN7.57S4F13B1151152-5% FCBN1010S4F13B1651152-5% FCBN100 10S4F13B1651152-5% FCBN120x240 V Party to 120/240 V Secondary 60 Hz11S6F7A $21.2$ 115—11S6F8A $30.1$ 115—22S6F9A $39.1$ 115—33S6F10A $1 \text{ on page 17}$ 55.2115—55S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115—1010S6F13B115115115101151151151151151010511511511511510105	1.5	1.5S51F	8A		30.1	115	—
33S4F10A $55.2$ 1152-5% FCBN55S4F13B1151152-5% FCBN7.57S4F13B1501152-5% FCBN1010S4F13B1651152-5% FCBN <b>1002440 V Distribution 105/240 V Secondary 60 Hz</b> 11S6F7A21.21151.51.5S6F8A30.111522S6F9A39.11155SS6F13B1155.57S6F13B1151-1010S6F13B1151010S6F13B115	2	2S51F	9A		39.1	115	_
55S4F13B7 on page 171151152-5% FCBN7.57S4F13B1651152-5% FCBN1010S4F13B1651152-5% FCBN <b>120x240 V Primary to 120/240 V Secondary 60 Hz</b> 11S6F7A $2$ 2S6F8A22S6F9A30.111533S6F10A $55.2$ 11555S6F13B1151151010S6F13B1151151010S6F13B1151151651151151151651151151151010S6F13B1151010S6F13B1151151651151151651101056F13B1151101056F13B115101056F13B115101056F13B115	3	3S4F	10A		55.2	115	2–5% FCBN
7.5     754F     13B     7 61 page 17     150     115     2-5% FCBN       10     1054F     13B     165     115     2-5% FCBN <b>120x240 V Secondary 60 Hz</b> 1     156F     7A       1.5     1.5S6F     8A       2     2S6F     9A       3     3S6F     10A       5.     5S6F     13B       7.5     7S6F     13B       10     10S6F     13B	5	5S4F	13B	7 on page 17	115	115	2–5% FCBN
10         10S4F         13B         165         115         2-5% FCBN           120x240 V Primary to 120/240 V Secondary 60 Hz         115         2-5% FCBN           1         1S6F         7A         1.5         1.5S6F         8A           2         2S6F         9A         30.1         115            3         3S6F         10A         10 n page 17         55.2         115            5.         5S6F         13B         115         115            10         10S6F         13B         115          115         115	7.5	7S4F	13B	7 on page 17	150	115	2–5% FCBN
2       2S6F       9A       3       3S6F       10A       5       5S6F       13B         10       10S6F       13B       10S6F       13B       115          10       10S6F       13B       115        150       115          10       10S6F       13B       115       115        150       115          10       10S6F       13B       115       115        150       115	10	10S4F	13B		165	115	2–5% FCBN
1         1S6F         7A         21.2         115            1.5         1.5S6F         8A         30.1         115            2         2S6F         9A         39.1         115            3         3S6F         10A         55.2         115            5         5S6F         13B         115          -           10         10S6F         13B         115          -	120x240 V P	rimary to 120/240	V Secondary 60 Hz				
1.5     1.5S6F     8A       2     2S6F     9A       3     3S6F     10A       5     5S6F     13B       7.5     7S6F     13B       10     10S6F     13B	1	1S6F	7A		21.2	115	—
2         2S6F         9A         39.1         115            3         3S6F         10A         1 on page 17         55.2         115            5         5S6F         13B         115         115            10         10S6F         13B         150         115            165         115          165         115	1.5	1.5S6F	8A		30.1	115	_
3         3S6F         10A         1 on page 17         55.2         115            5         5S6F         13B         115         115            7.5         7S6F         13B         150         115            10         10S6F         13B         165         115	2	2S6F	9A		39.1	115	_
5         5S6F         13B         115         115            7.5         7S6F         13B         150         115            10         10S6F         13B         165         115	3	3S6F	10A	1 on page 17	55.2	115	—
7.5         7S6F         13B         150         115            10         10S6F         13B         165         115	5	5S6F	13B		115	115	_
10 10S6F 13B 165 115 —	7.5	7S6F	13B		150	115	—
	10	10S6F	13B		165	115	

t page

# Sealed, Low Voltage Transformers Resin-Filled Transformers

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (Ibs)	°C Rise	Full Capacity Taps <sup>a</sup>
208 V Prima	ry to 120/240 V S	econdary 60 Hz	•			
1	1S7F	7A		21.2	115	_
1.5	1.5S7F	8A	0 17	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 Prima	ry to 120/240 Sec	ondary 60 Hz				
3	3S62F	10A		55.2	115	2–5% FCB
5	5S62F	13B		115	115	2–5% FCB
7.5	7S62F	13B		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 Prima	ry to 120/240 V S	econdary 60 Hz	•	•	•	
1	1S8F	7A		21.2	115	_
1.5	1.5S8F	8A	0 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 Prima	ry to 208 V Secor	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	1	115	115	l – 1
7.5	7S72F	13B	1	150	115	-
10	10S72F	13B	1	165	115	- 1
			1		cont	tinued on next name

## Sealed, Low Voltage Transformers Resin-Filled Transformers

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (Ibs)	°C Rise	Full Capacity Taps <sup>a</sup>	
240 V Prima	ry to 208 V Seco	ndary 60 Hz					
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 Prima	480 V Primary to 277 V Secondary 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 Prima	ry to 277 V Seco	ndary 60 Hz					
1	1S1292F	7A		21.2	115	—	
1.5	1.5S1292F	8A		30.1	115	—	
2	2S1292F	9A	3 on page 17	39.1	115	—	
3	3S1292F	10A		55.2	115	—	
5	5S1292F	13B		115	115	—	
7.5	7S1292F	13B		150	115	—	
10	10S1292F	13B		165	115	—	

#### Single-Phase Resin-Filled Transformers (continued)

<sup>a</sup> (FCBN) Full Capacity Taps Below Normal, where noted.

## **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<sup>a</sup>

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (Ibs)	°C Rise	Full Capacity Taps
190/200/208/	220 x 380/400/416	/440 V Primary to 110/220 V Se	condary 50/60 Hz			
1 <sup>b</sup>	1S67F	9A		21.2	115	—
2	2S67F	11A		39.1	115	—
3	3S67F	11A	0 on page 17	55.2	115	—
5	5S67F	13B	9 on page 17	135	115	—
7.5	7S67F	13B		165	115	—
10	10S67F	13B		165	115	—
380/400/415	V Primary to 120/2	240 V Secondary 50/60 Hz				
1 <sup>b</sup>	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		161.3	115	yes
10	EN10S71F50HZ	13B		177.4	115	yes

<sup>a</sup> Units are UL Listed and CSA Certified. Eligible for the CE mark; contact the factory for details.

<sup>b</sup> 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<sup>®</sup> 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.

kVA	Part Number	Enclosure (Refer to pages 10–16)	Wiring Diagram	Weight (Ibs)	°C Rise	Full Capacity Taps <sup>a</sup>
480 V Primary to 208Y/120 V Secondary 60 Hz						
3	3T2FSS	12C		125	115	2–5% FCBN
6	6T2FSS	12C	4 on page 17	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

#### **Three-Phase Stainless Steel Enclosures**

<sup>a</sup> (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 (Ibs)	°C Rise	Full Capacity Taps <sup>a</sup>
240 x 480 V De	elta Primary to 12	20/240 V Secondary 60 Hz			•	
1	1S1FSS	7A		21	115	—
1.5	1.5S1FSS	8A		30	115	—
2	2S1FSS	9A		39	115	—
3	3S1FSS	10A		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		385	115	—
480 V Delta Pr	imary to 120/240	V Secondary 60 Hz				
3	3S40FSS	10A		55.2	115	2–5% FCBN
5	5S40FSS	13B	7 on page 17	115	115	2–5% FCBN
7.5	7S40FSS	13B		150	115	2–5% FCBN
10	10S40FSS	13B		165	115	2–5% FCBN
15	15S40FSS	15B		320	115	2–5% FCBN
25	25S40FSS	15B		385	115	2–5% FCBN

<sup>a</sup> (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



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



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



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



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



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



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



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**

H1

**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**

240 V Service



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



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 TransformerLV480V to 600VHIkVA Capacity = 5 x Nameplate kVALoad kVALoad kVAkVA Rating of5Transformer 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 x 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**



1.73 Single Phase Unit

- 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

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 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  $^\circ\text{C}$  rise above a 40  $^\circ\text{C}$  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

Schneider Electric USA

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