Buck and Boost Transformer

Class 7414

Merlin Gerin
Modicon
Square D
Telemecanique

Schneider Electric Brands

CONTENTS

Description	Page
Product Description	2
Specifications	3
Selection Criteria	4
Wiring Diagrams	6
Tables Detailing Available Voltages for Load kVA	8

SQUARE D
Schneider Electric

Product Description

A Buck & Boost Transformer is an insulating transformer with either a 120 V x 240 V primary with a 12/24 V or 16/32 V secondary, or a 240 V x 480 V primary with a 24/48 V secondary. A Buck & Boost Transformer is also useful in applications where the primary and secondary are interconnected for use as an autotransformer. The equipment enclosure is designed and constructed for indoor or outdoor use and is NEMA 3R rated.

Square D Buck and Boost Transformers are UL and cUL listed (UL 506). They are designed, manufactured, and tested in accordance with ANSI standard Z535.3, Canadian standards CSA C22.2 no.66-1988 specialty transformers, and NEMA ST20 where applicable

Isolation Tranformers

- Carry the full load stated on the nameplate.

Autotransformers

- Can carry loads in excess of their nameplate rating.
- Numerous voltage ratios and current ratings can be obtained by varying the connections between the two primary windings and the two secondary windings.
- Increased ampacity depends upon the ratio and the voltage to which the transformer is subjected.
- Economical, compact means of slightly adjusting an application's voltage up or down.

Some Examples of Buck & Boost Transformers

KVA	120 x 240 V Primary 60Hz		240 x 480 V Primary 60 Hz	Temp. Rise in °C	Dimensions in inches (mm)			Weight in lb (kg)	Mounting	Enclosure*
	12/24 V Secondary	16/32 V Secondary	24/48 V Secondary		Height	Width	Depth			
.050	50SV43A	50SV46A	50SV82A	55	5.0 (127)	4.47 (114)	3.44 (87)	4.21 (1.9)	Wall	I-O
.100	100SV43A	100SV46A	100SV82A	55	5.5 (140)	4.47 (114)	3.44 (87)	4.5 (2.0)	Wall	I-O
.150	150SV43A	150SV46A	150SV82A	55	5.0 (127)	4.85 (123)	3.75 (95)	6.2 (2.8)	Wall	I-O
.250	250SV43B	250SV46B	250SV82B	80	5.5 (140)	5.23 (133)	4.06 (103)	10.5 (4.8)	Wall	I-O
.500	500SV43B	500SV46B	500SV82B	80	6.19 (157)	6.19 (157)	4.69 (119)	13.8 (6.3)	Wall	I-O
.750	750SV43F	750SV46F	750SV82F	115	6.69 (170)	6.19 (157)	4.69 (119)	15.5 (7.0)	Wall	I-O
1.0	1S43F	1S46F	1S82F	115	8.13 (270)	6.94 (176)	5.31 (135)	21.2 (9.6)	Wall	I-O
1.5	1.5S43F	1.5S46F	1.5S82F	115	8.25 (210)	8.68 (220)	6.56 (167)	30.1 (14)	Wall	I-O
2.0	2S43F	2S46F	2S82F	115	9.56 (243)	8.68 (220)	6.56 (167)	39.1 (18)	Wall	I-O
3.0	3S43F	3S46F	3S82F	115	14.5 (368)	8.6 (218)	6.5 (165)	60 (27)	Wall	I-O

*Enclosure Code: I = Indoor, O = Outdoor

About the Selection Tables

The selection tables starting on page 8 provide the necessary guidelines for selecting a transformer based upon the required voltage for a specific load kVA.

Use the following cross-reference tables to help identify the table with guidelines for your application.

Single-Phase Loads

If the Required Load Voltage Is	See Table	On Page
100 V	1	8
115 V	2	9
120 V	3	10
200 V	4	11
208 V	5	12
230 V	6	13
240 V	7	14
380 V	8	15
400 V	9	15
415 V	10	15
460 V	11	16
480 V	12	16

Three-Phase Loads (Open Delta Connection)

An open delta connection is for three-wire power loads only.
Available voltage must be a three-phase, three wire system with neutral.

If the Required Load Voltage Is	See Table	On Page
200 V	13	17
208 V	14	18
230 V	15	19
240 V	16	20
380 V	17	21
400 V	18	21
415 V	19	21
460 V	20	22
480 V	21	22

Three-Phase Loads (for Power or Lighting)

Available voltage must be a three-phase, four-wire system with neutral.

If the Required Load Voltage Is	See Table	On Page
200 V	22	23
208 V	23	24
230 V	24	25
240 V	25	26
380 V	26	27
400 V	27	28
415 V	28	29
460 V	29	30
480 V	30	31

Using the Selection Tables

1. Calculate the **Load kVA**:

$$\text{Single-Phase kVA} = \frac{\text{Load Volts x Load Amperes}}{1000}$$

$$\text{Three-Phase kVA} = \frac{\text{Load Volts x Load Amperes x 1.73}}{1000}$$

2. Select the **Desired Load Voltage** table nearest to the voltage required.
3. Find the **Available Voltage** nearest to the actual voltage measured.
4. Move down the available voltage column (actual voltage measured) and select a **Load kVA** value equal to or greater than (never less than) the load calculated in Step 1. Then, move horizontally to the left and select the transformer catalog number.

   NOTE: For three-phase power, two or three transformers may be required. See the table heading for appropriate usage.
5. Refer to the correct wiring diagram number at the bottom of the **Load kVA** column for the selected load kVA.

Examples

1. A single-phase air conditioner requires 16.7 A at 120 V. The existing line voltage is 110 V.

$$\text{Single-Phase kVA} = \frac{\text{Load Volts x Load Amperes}}{1000}$$

$$\text{kVA} = \frac{\text{120 V x 16.7 A}}{1000} = \text{2 kVA}$$

From Table 3 on page 10, pick the 109 V available voltage column. Move down to 2.5 kVA. Move left to select catalog number 250SV43B. The wiring diagram for this application is number 1.

2. A flourescent lighting load requires 18 A per phase with a 480Y/277 V supply. The available voltage measures only 436 V phase-to-phase.

$$\text{Three-Phase kVA} = \frac{\text{Load Volts x Load Amperes x 1.73}}{1000}$$

$$\text{kVA} = \frac{\text{480 V x 18 A x 1.73}}{1000} = \text{15 kVA}$$

From Table 30 on page 31, pick the 436Y/252 V available voltage column. Move down to 15 kVA. Move left to select catalog number 500SV43B. Note that three of these transformers are required. The wiring diagram for this application is number 10.

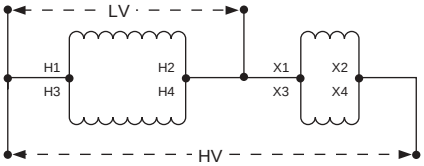
3. A 230 V, 3-phase motor draws 30 A. The available voltage is 218 V.

$$\text{Three-Phase kVA} = \frac{\text{Load Volts x Load Amperes x 1.73}}{1000}$$

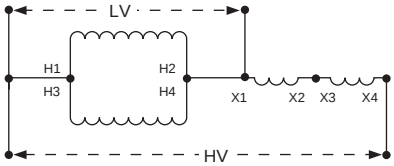
$$\text{kVA} = \frac{\text{230 V x 30 A x 1.73}}{1000} = \text{12 kVA}$$

From Table 15 on page 19, pick the 219 V available voltage column. Move down to 17.2 kVA. Move left to select catalog number 500SV43B. Note that two of these transformers are required. The wiring diagram for this application is number 5.

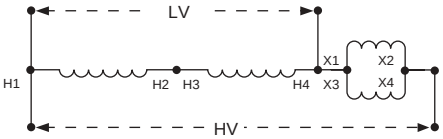
Wiring Diagrams



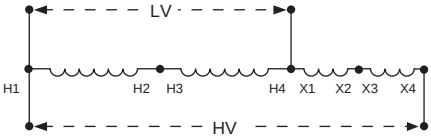
Wiring Diagram 1



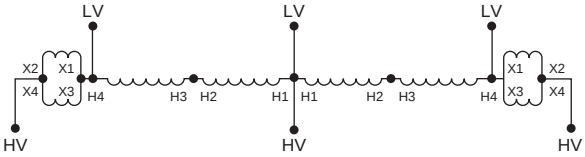
Wiring Diagram 2



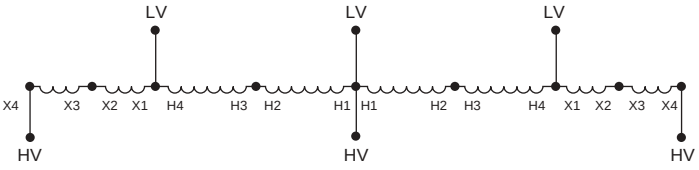
Wiring Diagram 3



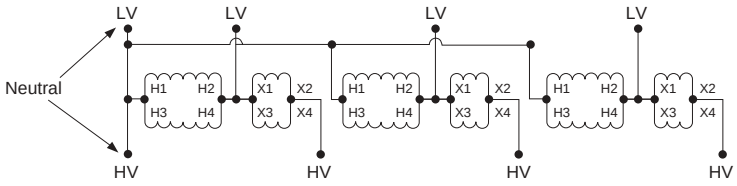
Wiring Diagram 4



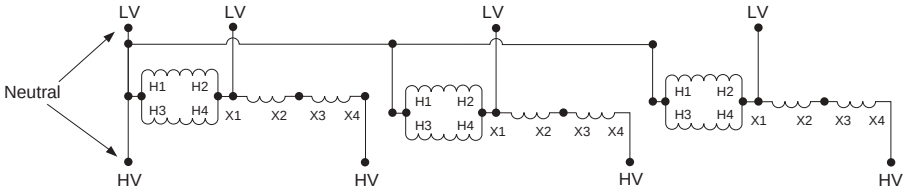
Wiring Diagram 5



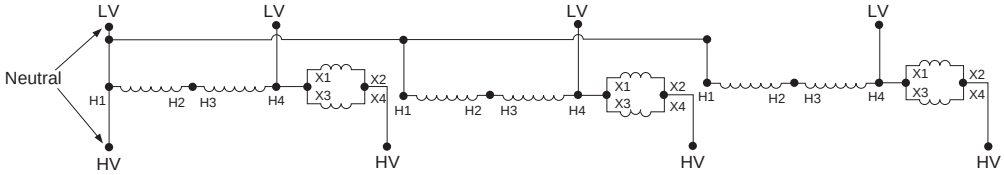
Wiring Diagram 6



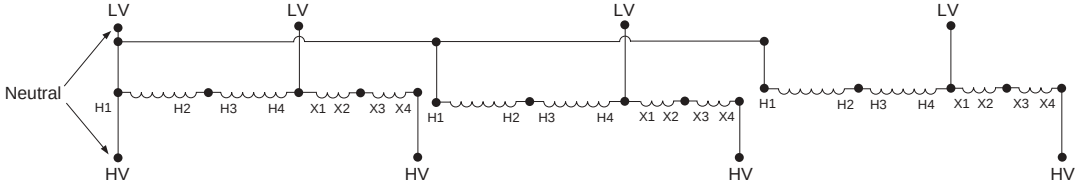
Wiring Diagram 7



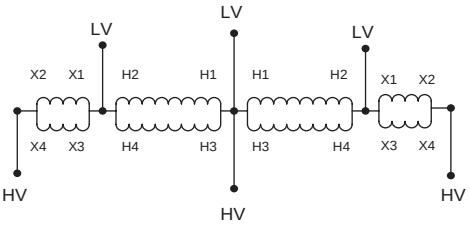
Wiring Diagram 8



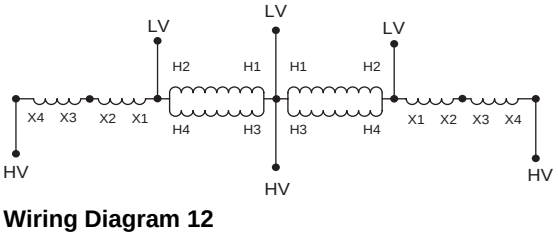
Wiring Diagram 9



Wiring Diagram 10



Wiring Diagram 11



Wiring Diagram 12

Available Voltages for Load kVa

Table 1: Desired Load Voltage or Source Voltage: 100 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options							
	**79	**83	**88	**91	**110	**113	**120	**127
	Single Phase Load kVA							
50SV43A	—	0.2	—	0.4	0.4	—	0.2	—
50SV46A	0.1	—	0.3	—	—	0.3	—	0.2
100SV43A	—	0.4	—	0.8	0.9	—	0.5	—
100SV46A	0.3	—	0.6	—	—	0.7	—	0.4
150SV43A	—	0.6	—	1.2	1.3	—	0.7	—
150SV46A	0.4	—	0.9	—	—	1.0	—	0.6
250SV43B	—	1.0	—	2.0	2.2	—	1.2	—
250SV46B	0.7	—	1.5	—	—	1.7	—	0.9
500SV43B	—	2.0	—	4.1	4.5	—	2.5	—
500SV46B	1.5	—	3.1	—	—	3.5	—	1.9
750SV43F	—	3.1	—	6.2	6.8	—	3.7	—
750SV46F	2.3	—	4.6	—	—	5.3	—	2.9
1S43F	—	4.1	—	8.3	9.1	—	5.0	—
1S46F	3.1	—	6.2	—	—	7.0	—	3.9
1.5S43F	—	6.2	—	12.5	13.7	—	7.5	—
1.5S46F	4.6	—	9.3	—	—	10.5	—	5.9
2S43F	—	8.3	—	16.6	18.3	—	10.0	—
2S46F	6.2	—	12.5	—	—	14.1	—	7.9
3S43F	—	12.5	—	25.0	27.5	—	15.0	—
3S46F	9.3	—	18.7	—	—	21.1	—	11.9
Wiring Diagram	2	2	1	1	1	1	2	2

**Good for 50/60 HZ Applications

Table 2: Desired Load Voltage or Source Voltage: 115 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options							
	**91	**96	**102	**105	127	130	138	146
	Single Phase Load kVA							
50SV43A	—	0.2	—	0.4	0.5	—	0.2	—
50SV46A	0.1	—	0.3	—	—	0.4	—	0.2
100SV43A	—	0.4	—	0.8	1	—	0.5	—
100SV46A	0.3	—	0.7	—	—	0.8	—	0.4
150SV43A	—	0.7	—	1.3	1.5	—	0.8	—
150SV46A	0.5	—	1.0	—	—	1.2	—	0.6
250SV43B	—	1.2	—	2.1	2.6	—	1.4	—
250SV46B	0.9	—	1.8	—	—	2.0	—	1.1
500SV43B	—	2.4	—	4.3	5.2	—	2.8	—
500SV46B	1.8	—	3.5	—	—	4.0	—	2.2
750SV43F	—	3.5	—	6.5	7.9	—	4.3	—
750SV46F	2.7	—	5.3	—	—	6.0	—	3.4
1S43F	—	4.7	—	8.7	10.5	—	5.7	—
1S46F	3.5	—	7.1	—	—	8.1	—	4.5
1.5S43F	—	7.1	—	13.1	15.8	—	8.6	—
1.5S46F	5.3	—	10.7	—	—	12.1	—	6.8
2S43F	—	9.5	—	17.5	21.1	—	11.5	—
2S46F	7.1	—	14.3	—	—	16.2	—	9.1
3S43F	—	14.0	—	26.2	31.7	—	17.2	—
3S46F	10.7	—	21.5	—	—	24.3	—	13.6
Wiring Diagram	2	2	1	1	1	1	2	2

**Good for 50/60 HZ Applications

Available Voltages for Load kVa

Table 3: Desired Load Voltage or Source Voltage: 120 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options							
	**95	**100	**106	**109	132	136	144	152
	Single Phase Load kVA							
50SV43A	—	0.2	—	0.5	0.5	—	0.3	—
50SV46A	0.1	—	0.3	—	—	0.4	—	0.2
100SV43A	—	0.5	—	1.0	1.0	—	0.6	—
100SV46A	0.3	—	0.7	—	—	0.8	—	0.4
150SV43A	—	0.7	—	1.5	1.6	—	0.9	—
150SV46A	0.5	—	1.1	—	—	1.2	—	0.7
250SV43B	—	1.2	—	2.5	2.7	—	1.5	—
250SV46B	0.9	—	1.8	—	—	2.1	—	1.1
500SV43B	—	2.5	—	5.0	5.5	—	3.0	—
500SV46B	1.5	—	3.7	—	—	4.2	—	2.3
750SV43F	—	3.7	—	7.5	8.2	—	4.5	—
750SV46F	2.8	—	5.6	—	—	6.3	—	3.5
1S43F	—	4.5	—	10.0	11.0	—	6.0	—
1S46F	3.7	—	7.5	—	—	8.5	—	4.7
1.5S43F	—	7.5	—	15.0	16.5	—	9.0	—
1.5S46F	5.6	—	11.2	—	—	12.7	—	7.1
2S43F	—	10.0	—	20.0	22.0	—	12.0	—
2S46F	7.5	—	15.0	—	—	17.0	—	9.5
3S43F	—	15.0	—	30.0	33.0	—	18.0	—
3S46F	11.2	—	22.5	—	—	25.5	—	14.2
Wiring Diagram	2	2	1	1	1	1	2	2

**Good for 50/60 HZ Applications

Table 4: Desired Load Voltage or Source Voltage: 200 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options											
	**167	**177	**182	**182	**188	**190	**210	**213	**220	**220	**227	**240
	Single Phase Load kVA											
50SV43A	—	—	0.3	—	—	0.7	0.8	—	0.4	—	—	—
50SV46A	—	0.3	—	—	0.6	—	—	0.6	—	—	0.3	—
50SV82A	0.2	—	—	0.4	—	—	—	—	—	0.4	—	0.2
100SV43A	—	—	0.7	—	—	1.5	1.7	—	0.9	—	—	—
100SV46A	—	0.6	—	—	1.2	—	—	1.3	—	—	0.7	—
100SV82A	0.4	—	—	0.8	—	—	—	—	—	0.9	—	0.5
150SV43A	—	—	1.1	—	—	2.3	2.6	—	1.3	—	—	—
150SV46A	—	0.9	—	—	1.8	—	—	2.0	—	—	1.0	—
150SV82A	0.6	—	—	1.2	—	—	—	—	—	1.3	—	0.7
250SV43B	—	—	1.9	—	—	3.9	4.3	—	2.2	—	—	—
250SV46B	—	1.5	—	—	3.1	—	—	3.3	—	—	1.7	—
250SV82B	1.0	—	—	2.0	—	—	—	—	—	2.2	—	1.2
500SV43B	—	—	3.7	—	—	7.9	8.7	—	4.5	—	—	—
500SV46B	—	3.1	—	—	6.2	—	—	6.6	—	—	3.5	—
500SV82B	2.0	—	—	4.1	—	—	—	—	—	4.5	—	2.5
750SV43F	—	—	5.6	—	—	11.8	13.1	—	6.8	—	—	—
750SV46F	—	4.6	—	—	9.3	—	—	9.9	—	—	5.3	—
750SV82F	3.1	—	—	6.2	—	—	—	—	—	6.8	—	3.7
1S43F	—	—	7.5	—	—	15.8	17.5	—	9.1	—	—	—
1S46F	—	6.2	—	—	12.5	—	—	13.3	—	—	7.0	—
1S82F	4.1	—	—	8.3	—	—	—	—	—	9.1	—	5.0
1.5S43F	—	—	11.3	—	—	23.7	26.2	—	13.7	—	—	—
1.5S46F	—	9.3	—	—	18.7	—	—	19.9	—	—	10.6	—
1.5S82F	6.2	—	—	12.5	—	—	—	—	—	13.7	—	7.5
2S43F	—	—	15.1	—	—	31.6	35.0	—	18.3	—	—	—
2S46F	—	12.5	—	—	25.0	—	—	26.6	—	—	14.1	—
2S82F	8.3	—	—	16.6	—	—	—	—	—	18.3	—	10.0
3S43F	—	—	22.7	—	—	47.5	52.5	—	27.5	—	—	—
3S46F	—	18.7	—	—	37.5	—	—	39.9	—	—	21.2	—
3S82F	12.5	—	—	25.0	—	—	—	—	—	27.5	—	15.0
Wiring Diagram	2	4	4	1	3	3	3	3	4	1	4	2

**Good for 50/60 HZ Applications

Available Voltages for Load kVa

Table 5: Desired Load Voltage or Source Voltage: 208 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options											
	**173	**184	**189	**189	**195	**198	218	222	229	229	236	250
	Single Phase Load kVA											
50SV43A	—	—	0.4	—	—	0.8	0.9	—	0.4	—	—	—
50SV46A	—	0.3	—	—	0.6	—	—	0.6	—	—	0.3	—
50SV82A	0.2	—	—	0.4	—	—	—	—	—	0.4	—	0.2
100SV43A	—	—	0.8	—	—	1.7	1.8	—	0.9	—	—	—
100SV46A	—	0.6	—	—	1.3	—	—	1.3	—	—	0.7	—
100SV82A	0.4	—	—	0.8	—	—	—	—	—	0.9	—	0.5
150SV43A	—	—	1.3	—	—	2.6	2.7	—	1.4	—	—	—
150SV46A	—	0.9	—	—	1.9	—	—	2.0	—	—	1.1	—
150SV82A	0.6	—	—	1.3	—	—	—	—	—	1.4	—	0.7
250SV43B	—	—	2.1	—	—	4.3	4.5	—	2.3	—	—	—
250SV46B	—	1.6	—	—	3.2	—	—	3.4	—	—	1.8	—
250SV82B	1.0	—	—	2.1	—	—	—	—	—	2.3	—	1.3
500SV43B	—	—	4.3	—	—	8.6	9.0	—	4.7	—	—	—
500SV46B	—	3.2	—	—	6.5	—	—	6.9	—	—	3.6	—
500SV82B	2.1	—	—	4.3	—	—	—	—	—	4.7	—	2.6
750SV43F	—	—	6.5	—	—	13.0	13.6	—	7.1	—	—	—
750SV46F	—	4.8	—	—	9.7	—	—	10.4	—	—	5.5	—
750SV82F	3.2	—	—	6.5	—	—	—	—	—	7.1	—	3.9
1S43F	—	—	8.6	—	—	17.3	18.1	—	9.5	—	—	—
1S46F	—	6.5	—	—	13.0	—	—	13.8	—	—	7.3	—
1S82F	4.3	—	—	8.6	—	—	—	—	—	9.5	—	5.2
1.5S43F	—	—	13.0	—	—	26.0	27.2	—	14.3	—	—	—
1.5S46F	—	9.7	—	—	19.5	—	—	20.8	—	—	11.0	—
1.5S82F	6.5	—	—	13.0	—	—	—	—	—	14.3	—	7.8
2S43F	—	—	17.3	—	—	34.6	36.3	—	19.0	—	—	—
2S46F	—	13.0	—	—	26.0	—	—	27.7	—	—	14.7	—
2S82F	8.6	—	—	17.3	—	—	—	—	—	19.0	—	10.4
3S43F	—	—	26.0	—	—	52.0	54.5	—	28.6	—	—	—
3S46F	—	19.5	—	—	39.0	—	—	41.6	—	—	22.1	—
3S82F	13.0	—	—	26.0	—	—	—	—	—	28.6	—	15.6
Wiring Diagram	2	4	4	1	3	3	3	3	4	1	4	2

**Good for 50/60 HZ Applications

Table 6: Desired Load Voltage or Source Voltage: 230 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options											
	**192	**203	**209	**209	216	219	242	245	253	253	261	276
	Single Phase Load kVA											
50SV43A	—	—	0.4	—	—	0.9	1.0	—	0.5	—	—	—
50SV46A	—	0.3	—	—	0.6	—	—	0.7	—	—	0.4	—
50SV82A	0.2	—	—	0.4	—	—	—	—	—	0.5	—	0.2
100SV43A	—	—	0.9	—	—	1.8	2.0	—	1.0	—	—	—
100SV46A	—	0.7	—	—	1.3	—	—	1.5	—	—	0.8	—
100SV82A	0.4	—	—	0.9	—	—	—	—	—	1.0	—	0.5
150SV43A	—	—	1.4	—	—	2.7	3.0	—	1.5	—	—	—
150SV46A	—	1.0	—	—	2.0	—	—	2.3	—	—	1.2	—
150SV82A	0.7	—	—	1.4	—	—	—	—	—	1.5	—	0.8
250SV43B	—	—	2.4	—	—	4.5	5.0	—	2.6	—	—	—
250SV46B	—	1.8	—	—	3.3	—	—	3.8	—	—	2.0	—
250SV82B	1.2	—	—	2.4	—	—	—	—	—	2.6	—	1.4
500SV43B	—	—	4.7	—	—	9.1	10.0	—	5.2	—	—	—
500SV46B	—	3.5	—	—	6.7	—	—	7.6	—	—	4.0	—
500SV82B	2.4	—	—	4.7	—	—	—	—	—	5.2	—	2.8
750SV43F	—	—	7.1	—	—	13.6	15.1	—	7.9	—	—	—
750SV46F	—	5.3	—		10.1	—	—	11.4	—	—	6.1	—
750SV82F	3.5	—	—	7.1		—	—	—	—	7.9	—	4.3
1S43F	—	—	9.5	—	—	18.2	20.1	—	10.5	—	—	—
1S46F	—	7.1	—	—	13.5	—	—	15.3	—	—	8.1	—
1S82F	4.7	—	—	9.5	—	—	—	—	—	10.5	—	5.7
1.5S43F	—	—	14.3	—	—	27.3	30.2	—	15.8	—	—	—
1.5S46F	—	10.7	—	—	20.2	—	—	22.9	—	—	12.2	—
1.5S82F	7.1	—	—	14.3	—	—	—	—	—	15.8	—	8.6
2S43F	—	—	19.1	—	—	36.5	40.3	—	21.0	—	—	—
2S46F	—	14.3	—	—	27.0	—	—	30.6	—	—	21.5	—
2S82F	9.5	—	—	19.1	—	—	—	—	—	21.0	—	11.5
3S43F	—	—	28.7	—	—	54.7	60.5	—	31.6	—	—	—
3S46F	—	21.5	—	—	40.5	—	—	45.9	—	—	24.4	—
3S82F	14.3	—	—	28.7	—	—	—	—	—	31.6	—	17.2
Wiring Diagram	2	4	4	1	3	3	3	3	4	1	4	2

**Good for 50/60 HZ Applications

Available Voltages for Load kVa

Table 7: Desired Load Voltage or Source Voltage: 240 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options											
	**200	**212	**218	**218	225	229	252	256	264	264	272	288
	Single Phase Load kVA											
50SV43A	—	—	0.5	—	—	1.0	1.0	—	0.5	—	—	—
50SV46A	—	0.3	—	—	0.7	—	—	0.8	—	—	0.4	—
50SV82A	0.2	—	—	0.5	—	—	—	—	—	0.5	—	0.3
100SV43A	—	—	1.0	—	—	2.0	2.1	—	1.1	—	—	—
100SV46A	—	0.7	—	—	1.5	—	—	1.6	—	—	0.8	—
100SV82A	0.5	—	—	1.0	—	—	—	—	—	1.1	—	0.6
150SV43A	—	—	1.5	—	—	3.0	3.1	—	1.6	—	—	—
150SV46A	—	1.1	—	—	2.2	—	—	2.4	—	—	1.2	—
150SV82A	0.7	—	—	1.5	—	—	—	—	—	1.6	—	0.9
250SV43B	—	—	2.5	—	—	5.0	5.2	—	2.7	—	—	—
250SV46B	—	1.8	—	—	3.7	—	—	4.0	—	—	2.1	—
250SV82B	1.2	—	—	2.5	—	—	—	—	—	2.7	—	1.5
500SV43B	—	—	5.0	—	—	10.0	10.5	—	5.5	—	—	—
500SV46B	—	3.7	—	—	7.5	—	—	8.0	—	—	4.2	—
500SV82B	2.5	—	—	5.0	—	—	—	—	—	5.5	—	3.0
750SV43F	—	—	7.5	—	—	15.0	15.7	—	8.2	—	—	—
750SV46F	—	5.6	—	—	11.2	—	—	12.0	—	—	6.3	—
750SV82F	3.7	—	—	7.5	—	—	—	—	—	8.2	—	4.5
1S43F	—	—	10.0	—	—	20.0	21.0	—	11.0	—	—	—
1S46F	—	7.5	—	—	15.0	—	—	16.0	—	—	8.5	—
1S82F	5.0	—	—	10.0	—	—	—	—	—	11.0	—	6.0
1.5S43F	—	—	15.0	—	—	30.0	31.5	—	16.5	—	—	—
1.5S46F	—	11.2	—	—	22.5	—	—	24.0	—	—	12.7	—
1.5S82F	7.5	—	—	15.0	—	—	—	—	—	16.5	—	9.0
2S43F	—	—	20.0	—	—	40.0	42.0	—	22.0	—	—	—
2S46F	—	15.0	—	—	30.0	—	—	32.0	—	—	17.0	—
2S82F	10.0	—	—	20.0	—	—	—	—	—	22.0	—	12.0
3S43F	—	—	30.0	—	—	60.0	63.0	—	33.0	—	—	—
3S46F	—	22.5	—	—	45.0	—	—	48.0	—	—	25.5	—
3S82F	15.0	—	—	30.0	—	—	—	—	—	33.0	—	18.0
Wiring Diagram	2	4	4	1	3	3	3	3	4	1	4	2

**Good for 50/60 HZ Applications

Table 8: Desired Load Voltage or Source Voltage: 380 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options			
	**345	**362	**399	**418
	Single Phase Load kVA			
50SV82A	0.4	0.7	0.8	0.4
100SV82A	0.7	1.5	1.6	0.8
150SV82A	1.1	2.3	2.4	1.3
250SV82B	1.9	3.9	4.1	2.1
500SV82B	3.9	7.9	8.3	4.3
750SV82F	5.9	11.8	12.4	6.5
1S82F	7.9	15.8	16.6	8.7
1.5S82F	11.8	23.7	24.9	13.0
2S82F	15.8	31.6	33.2	17.4
3S82F	23.7	47.5	49.8	26.1
Wiring Diagram	4	3	3	4

**Good for 50/60 HZ Applications

Table 9: Desired Load Voltage or Source Voltage: 400 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options			
	**364	**381	**420	**440
	Single Phase Load kVA			
50SV82A	0.4	0.8	0.8	0.4
100SV82A	0.8	1.6	1.7	0.9
150SV82A	1.2	2.5	2.6	1.3
250SV82B	2.0	4.1	4.3	2.2
500SV82B	4.1	8.3	8.7	4.5
750SV82F	6.2	12.5	13.1	6.8
1S82F	8.3	16.6	17.5	9.1
1.5S82F	12.5	25.0	26.2	13.7
2S82F	16.6	33.3	35.0	18.3
3S82F	25.0	50.0	52.5	27.5
Wiring Diagram	4	3	3	4

**Good for 50/60 HZ Applications

Table 10: Desired Load Voltage or Source Voltage: 415 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options			
	**377	**395	**436	**457
	Single Phase Load kVA			
50SV82A	0.4	0.8	0.9	0.4
100SV82A	0.8	1.7	1.8	0.9
150SV82A	1.3	2.5	2.7	1.4
250SV82B	2.1	4.3	4.5	2.3
500SV82B	4.3	8.6	9.0	4.7
750SV82F	6.4	12.9	13.6	7.1
1S82F	8.6	17.2	18.1	9.5
1.5S82F	12.9	25.9	27.2	14.3
2S82F	17.2	34.5	36.3	19.0
3S82F	35.9	51.8	54.5	28.5
Wiring Diagram	4	3	3	4

**Good for 50/60 HZ Applications

Available Voltages for Load kVa

Table 11: Desired Load Voltage or Source Voltage: 460 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options			
	**418	438	483	506
	Single Phase Load kVA			
50SV82A	0.4	0.9	1.0	0.5
100SV82A	0.9	1.9	2.0	1.0
150SV82A	1.4	2.8	3.0	1.5
250SV82B	2.4	4.7	5.0	2.6
500SV82B	4.7	9.5	10.0	5.2
750SV82F	7.1	14.3	15.0	7.9
1S82F	9.5	19.1	20.1	10.5
1.5S82F	14.3	28.7	30.1	15.8
2S82F	19.1	38.3	40.2	21.0
3S82F	28.7	57.5	60.3	31.6
Wiring Diagram	4	3	3	4

**Good for 50/60 HZ Applications

Table 12: Desired Load Voltage or Source Voltage: 480 V Single Phase, 60 HZ, One Transformer Required

Transformer Catalog Number	Voltage Options			
	**436	457	504	528
	Single Phase Load kVA			
50SV82A	0.5	1.0	1.0	0.5
100SV82A	1.0	2.0	2.1	1.1
150SV82A	1.5	3.0	3.1	1.6
250SV82B	2.5	5.0	5.2	2.7
500SV82B	5.0	10.0	10.5	5.5
750SV82F	7.5	15.0	15.7	8.2
1S82F	10.0	20.0	21.0	11.0
1.5S82F	15.0	30.0	31.5	16.5
2S82F	20.0	40.0	42.0	22.0
3S82F	30.0	60.0	63.0	33.0
Wiring Diagram	4	3	3	4

**Good for 50/60 HZ Applications

Table 13: Desired Load Voltage or Source Voltage: 200 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options											
	**167	**177	**182	**182	**188	**190	**210	**213	**220	**220	**227	**240
	Three Phase Load kVA											
50SV43A	—	—	0.7	—	—	1.4	1.5	—	—	0.7	—	—
50SV46A	—	0.5	—	—	1.0	—	—	1.1	—	—	0.6	—
50SV82A	0.3	—	—	0.7	—	—	—	—	0.7	—	—	0.4
100SV43A	—	—	1.4	—	—	2.8	3	—	—	1.5	—	—
100SV46A	—	1.0	—	—	2.1	—	—	2.3	—	—	1.2	—
100SV82A	0.7	—	—	1.4	—	—	—	—	1.5	—	—	0.8
150SV43A	—	—	2.1	—	—	4.3	4.5	—	—	2.3	—	—
150SV46A	—	1.6	—	—	3.2	—	—	3.4	—	—	1.8	—
150SV82A	1.0	—	—	2.1	—	—	—	—	2.3	—	—	1.3
250SV43B	—	—	3.6	—	—	7.2	7.5	—	—	3.9	—	—
250SV46B	—	2.7	—	—	5.4	—	—	5.7	—	—	3.0	—
250SV82B	1.8	—	—	3.6	—	—	—	—	3.9	—	—	2.1
500SV43B	—	—	7.2	—	—	14.4	15.1	—	—	7.9	—	—
500SV46B	—	5.4	—	—	10.8	—	—	11.5	—	—	6.1	—
500SV82B	3.6	—	—	7.2	—	—	—	—	7.9	—	—	4.3
750SV43F	—	—	10.8	—	—	21.6	22.7	—	—	11.9	—	—
750SV46F	—	8.1	—	—	16.2	—	—	17.2	—	—	9.2	—
750SV82F	5.4	—	—	10.8	—	—	—	—	11.9	—	—	6.5
1S43F	—	—	14.4	—	—	28.8	30.3	—	—	15.8	—	—
1S46F	—	10.8	—	—	21.6	—	—	23.0	—	—	12.2	—
1S82F	7.2	—	—	14.4	—	—	—	—	15.8	—	—	8.6
1.5S43F	—	—	21.6	—	—	43.3	45.4	—	—	23.8	—	—
1.5S46F	—	16.2	—	—	32.4	—	—	34.5	—	—	18.4	—
1.5S82F	10.8.8	—	—	21.6	—	—	—	—	23.8	—	—	12.9
2S43F	—	—	28.8	—	—	57.7	60.6	—	—	31.7	—	—
2S46F	—	21.6	—	—	43.3	—	—	46.1	—	—	24.5	—
2S82F	14.4	—	—	28.8	—	—	—	—	31.7	—	—	17.3
3S43F	—	—	43.3	—	—	86.6	90.9	—	—	47.6	—	—
3S46F	—	32.4	—	—	64.4	—	—	69.1	—	—	36.8	—
3S82F	21.6	—	—	43.3	—	—	—	—	47.6	—	—	25.9
Wiring Diagram	12	6	6	11	5	5	5	5	11	6	6	12

**Good for 50/60 HZ Applications

Available Voltages for Load kVa

Table 14: Desired Load Voltage or Source Voltage: 208 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options											
	**173	**184	**189	**189	**195	**198	218	222	229	229	236	250
	Three Phase Load kVA											
50SV43A	—	—	0.4	—	—	1.5	1.5	—	—	0.8	—	—
50SV46A	—	0.5	—	—	1.1	—	—	1.2	—	—	0.6	—
50SV82A	0.3	—	—	0.7	—	—	—	—	0.8	—	—	0.4
100SV43A	—	—	1.5	—	—	3.0	3.1	—	—	1.6	—	—
100SV46A	—	1.1	—	—	2.2	—	—	2.4	—	—	1.2	—
100SV82A	0.7	—	—	1.5	—	—	—	—	1.6	—	—	0.9
150SV43A	—	—	2.2	—	—	4.5	4.7	—	—	2.4	—	—
150SV46A	—	1.6	—	—	3.3	—	—	3.6	—	—	1.9	—
150SV82A	1.1	—	—	2.2	—	—	—	—	2.4	—	—	1.3
250SV43B	—	—	3.7	—	—	7.5	7.8	—	—	4.1	—	—
250SV46B	—	2.8	—	—	5.6	—	—	6.0	—	—	3.1	—
250SV82B	1.8	—	—	3.7	—	—	—	—	4.1	—	—	2.2
500SV43B	—	—	7.5	—	—	15.0	15.7	—	—	8.2	—	—
500SV46B	—	5.6	—	—	11.2	—	—	12.0	—	—	6.3	—
500SV82B	3.7	—	—	7.5	—	—	—	—	8.2	—	—	4.5
750SV43F	—	—	11.2	—	—	22.5	23.6	—	—	12.3	—	—
750SV46F	—	8.4	—	—	16.8	—	—	18.0	—	—	9.5	—
750SV82F	5.6	—	—	11.2	—	—	—	—	12.3	—	—	6.7
1S43F	—	—	15.0	—	—	30.0	31.4	—	—	16.5	—	—
1S46F	—	11.2	—	—	22.5	—	—	24.0	—	—	12.7	—
1S82F	7.5	—	—	15.0	—	—	—	—	16.5	—	—	9.0
1.5S43F	—	—	22.5	—	—	45.0	47.2	—	—	24.7	—	—
1.5S46F	—	16.8	—	—	33.7	—	—	36.0	—	—	19.1	—
1.5S82F	11.2	—	—	22.5	—	—	—	—	24.7	—	—	13.5
2S43F	—	—	30.0	—	—	60.0	62.9	—	—	33	—	—
2S46F	—	22.5	—	—	45.0	—	—	48.0	—	—	25.5	—
2S82F	15.0	—	—	30.0	—	—	—	—	33.0	—	—	18.0
3S43F	—	—	45.0	—	—	90.0	94.3	—	—	49.5	—	—
3S46F	—	33.7	—	—	67.5	—	—	72.0	—	—	38.3	—
3S82F	22.5	—	—	45.0	—	—	—	—	49.5	—	—	27.0
Wiring Diagram	12	6	6	11	5	5	5	5	11	6	6	12

**Good for 50/60 HZ Applications

Table 15: Desired Load Voltage or Source Voltage: 230 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options											
	**192	**203	**209	**209	216	219	242	245	253	253	261	276
	Three Phase Load kVA											
50SV43A	—	—	0.8	—	—	1.6	1.7	—	—	0.9	—	—
50SV46A	—	0.6	—	—	1.2	—	—	1.3	—	—	0.7	—
50SV82A	0.4	—	—	0.8	—	—	—	—	0.9	—	—	0.5
100SV43A	—	—	1.6	—	—	3.3	3.4	—	—	1.8	—	—
100SV46A	—	1.2	—	—	2.4	—	—	2.6	—	—	1.4	—
100SV82A	0.8	—	—	1.6	—	—	—	—	1.8	—	—	1.0
150SV43A	—	—	2.5	—	—	4.9	5.2	—	—	2.7	—	—
150SV46A	—	1.8	—	—	3.7	—	—	3.9	—	—	2.1	—
150SV82A	1.2	—	—	2.4	—	—	—	—	2.7	—	—	1.4
250SV43B	—	—	4.1	—	—	8.3	8.7	—	—	4.5	—	—
250SV46B	—	3.1	—	—	6.2	—	—	6.6	—	—	3.5	—
250SV82B	2.0	—	—	4.1	—	—	—	—	4.5	—	—	2.4
500SV43B	—	—	8.3	—	—	16.6	17.4	—	—	9.1	—	—
500SV46B	—	6.2	—	—	12.4	—	—	13.2	—	—	7.0	—
500SV82B	4.1	—	—	8.3	—	—	—	—	9.1	—	—	4.9
750SV43F	—	—	12.4	—	—	24.9	26.2	—	—	13.6	—	—
750SV46F	—	9.3	—	—	18.6	—	—	19.8	—	—	10.5	—
750SV82F	6.2	—	—	12.4	—	—	—	—	13.6	—	—	7.4
1S43F	—	—	16.6	—	—	33.2	34.9	—	—	18.2	—	—
1S46F	—	12.4	—	—	24.4	—	—	26.5	—	—	14.1	—
1S82F	8.3	—	—	16.6	—	—	—	—	18.2	—	—	9.9
1.5S43F	—	—	24.9	—	—	49.8	52.3	—	—	27.3	—	—
1.5S46F	—	18.6	—	—	37.3	—	—	39.7	—	—	21.1	—
1.5S82F	12.4	—	—	24.9	—	—	—	—	27.3	—	—	14.9
2S43F	—	—	33.2	—	—	66.3	69.8	—	—	36.5	—	—
2S46F	—	24.9	—	—	49.8	—	—	53.0	—	—	28.2	—
2S82F	16.6	—	—	33.2	—	—	—	—	36.5	—	—	19.9
3S43F	—	—	49.8	—	—	99.5	104.7	—	—	54.7	—	—
3S46F	—	37.3	—	—	74.6	—	—	79.5	—	—	42.3	—
3S82F	24.9	—	—	49.8	—	—	—	—	54.7	—	—	29.8
Wiring Diagram	12	6	6	11	5	5	5	5	11	6	6	12

**Good for 50/60 HZ Applications

Available Voltages for Load kVa

Table 16: Desired Load Voltage or Source Voltage: 240 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options											
	**200	**212	**218	**218	225	229	252	256	264	264	272	288
	Three Phase Load kVA											
50SV43A	—	—	0.8	—	—	1.6	1.8	—	—	0.9	—	—
50SV46A	—	0.6	—	—	1.3	—	—	1.3	—	—	0.7	—
50SV82A	0.4	—	—	0.8	—	—	—	—	0.9	—	—	0.5
100SV43A	—	—	1.7	—	—	3.3	3.6	—	—	1.9	—	—
100SV46A	—	1.3	—	—	2.6	—	—	2.7	—	—	1.4	—
100SV82A	0.8	—	—	1.7	—	—	—	—	1.9	—	—	1.0
150SV43A	—	—	2.6	—	—	4.9	5.4	—	—	2.8	—	—
150SV46A	—	1.9	—	—	3.9	—	—	4.1	—	—	2.2	—
150SV82A	1.3	—	—	2.6	—	—	—	—	2.8	—	—	1.5
250SV43B	—	—	4.3	—	—	8.2	9.0	—	—	4.7	—	—
250SV46B	—	3.2	—	—	6.5	—	—	6.9	—	—	3.6	—
250SV82B	2.1	—	—	4.3	—	—	—	—	4.7	—	—	2.6
500SV43B	—	—	8.6	—	—	16.5	18.1	—	—	9.5	—	—
500SV46B	—	6.5	—	—	12.9	—	—	13.8	—	—	7.3	—
500SV82B	4.3	—	—	8.6	—	—	—	—	9.5	—	—	5.2
750SV43F	—	—	12.9	—	—	24.7	27.2	—	—	14.2	—	—
750SV46F	—	9.7	—	—	19.4	—	—	20.7	—	—	11.0	—
750SV82F	6.5	—	—	12.9	—	—	—	—	14.2	—	—	7.7
1S43F	—	—	17.3	—	—	33	36.3	—	—	19.0	—	—
1S46F	—	12.9	—	—	25.4	—	—	27.7	—	—	14.7	—
1S82F	8.6	—	—	17.3	—	—	—	—	19.0	—	—	10.3
1.5S43F	—	—	25.9	—	—	49.5	54.5	—	—	28.5	—	—
1.5S46F	—	19.4	—	—	38.9	—	—	41.5	—	—	22.0	—
1.5S82F	12.9	—	—	25.9	—	—	—	—	28.5	—	—	15.5
2S43F	—	—	34.6	—	—	66.1	72.7	—	—	38.1	—	—
2S46F	—	25.9	—	—	51.9	—	—	55.4	—	—	29.4	—
2S82F	17.3	—	—	34.6	—	—	—	—	38.1	—	—	20.7
3S43F	—	—	51.9	—	—	99.1	109.1	—	—	57.1	—	—
3S46F	—	38.9	—	—	77.9	—	—	83.1	—	—	44.1	—
3S82F	25.9	—	—	51.9	—	—	—	—	57.1	—	—	31.1
Wiring Diagram	12	6	6	11	5	5	5	5	11	6	6	12

**Good for 50/60 HZ Applications

Table 17: Desired Load Voltage or Source Voltage: 380 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options			
	**345	**362	**399	**418
	Three Phase Load kVA			
50SV82A	0.6	1.3	1.4	0.7
100SV82A	1.3	2.7	2.8	1.5
150SV82A	2.0	4.1	4.3	2.2
250SV82B	3.4	6.8	7.2	3.7
500SV82B	6.8	13.7	14.4	7.5
750SV82F	10.2	20.5	21.6	11.3
1S82F	13.7	27.4	28.7	15.0
1.5S82F	20.5	41.1	43.1	22.6
2S82F	27.4	54.8	57.5	30.1
3S82F	41.1	82.2	86.3	45.2
Wiring Diagram	6	5	5	6

**Good for 50/60 HZ Applications

Table 18: Desired Load Voltage or Source Voltage: 400 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options			
	**364	**381	**420	**440
	Three Phase Load kVA			
50SV82A	0.7	1.4	1.5	0.7
100SV82A	1.4	2.8	3.0	1.5
150SV82A	2.1	4.3	4.5	2.3
250SV82B	3.6	7.2	7.5	3.9
500SV82B	7.2	14.4	15.1	7.9
750SV82F	10.8	21.6	22.7	11.9
1S82F	14.4	28.8	30.3	15.8
1.5S82F	21.6	43.3	45.4	23.8
2S82F	28.8	57.7	60.6	31.7
3S82F	43.3	86.6	90.9	47.6
Wiring Diagram	6	5	5	6

**Good for 50/60 HZ Applications

Table 19: Desired Load Voltage or Source Voltage: 415 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options			
	**377	**395	436	457
	Three Phase Load kVA			
50SV82A	0.7	1.5	1.5	0.8
100SV82A	1.5	2.9	3.1	1.6
150SV82A	2.2	4.4	4.7	2.4
250SV82B	3.7	7.4	7.8	4.1
500SV82B	7.4	14.9	15.7	8.2
750SV82F	11.2	22.4	23.6	12.3
1S82F	14.9	29.9	31.4	16.4
1.5S82F	22.4	44.9	47.2	24.7
2S82F	29.9	59.9	62.9	32.9
3S82F	44.9	89.8	94.3	49.4
Wiring Diagram	6	5	5	6

**Good for 50/60 HZ Applications

Table 20: Desired Load Voltage or Source Voltage: 460 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options			
	**418	438	483	506
	Three Phase Load kVA			
50SV82A	0.8	1.6	1.7	0.9
100SV82A	1.6	3.3	3.4	1.8
150SV82A	2.4	4.9	5.2	2.7
250SV82B	4.1	8.3	8.7	4.5
500SV82B	8.3	16.6	17.4	9.1
750SV82F	12.4	24.9	26.1	13.6
1S82F	16.6	33.2	34.8	18.2
1.5S82F	24.9	49.8	52.2	27.3
2S82F	33.2	66.3	69.7	36.5
3S82F	49.8	99.5	104.5	54.7
Wiring Diagram	6	5	5	6

**Good for 50/60 HZ Applications

Table 21: Desired Load Voltage or Source Voltage: 480 V Three Phase, 60 HZ, Two Transformers Required

Transformer Catalog Number	Voltage Options			
	**436	457	504	528
	Three Phase Load kVA			
50SV82A	0.8	1.7	1.8	0.9
100SV82A	1.7	3.4	3.6	1.9
150SV82A	2.6	5.2	5.4	2.8
250SV82B	4.3	8.6	9.0	4.7
500SV82B	8.6	17.3	18.1	9.5
750SV82F	12.9	25.9	27.2	14.2
1S82F	17.3	34.6	36.3	19.0
1.5S82F	25.9	51.9	54.3	28.5
2S82F	34.6	69.2	72.7	38.1
3S82F	51.9	103.9	109.1	57.1
Wiring Diagram	6	5	5	6

**Good for 50/60 HZ Applications

Table 22: Desired Load Voltage or Source Voltage: 200Y/115 V Three Phase, 50/60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options											
	158Y/92	167Y/96	182Y/105	188Y/109	190Y/110	190Y/110	210Y/121	210Y/121	213Y/123	220Y/127	227Y/131	240Y/139
	Three Phase Load kVA											
50SV43A	—	0.7	—	—	1.4	—	1.5	—	—	0.7	—	0.8
50SV46A	0.5	—	—	1.0	—	—	—	—	1.1	—	—	—
50SV82A	—	—	0.3	—	—	0.7	—	0.7	—	—	0.4	—
100SV43A	—	1.4	—	—	2.8	—	3.0	—	—	1.5	—	1.7
100SV46A	1.0	—	—	2.1	—	—	—	—	2.3	—	—	—
100SV82A	—	—	0.7	—	—	1.4	—	1.5	—	—	0.8	—
150SV43A	—	2.1	—	—	4.3	—	4.5	—	—	2.3	—	2.6
150SV46A	1.6	—	—	3.2	—	—	—	—	3.4	—	—	—
150SV82A	—	—	1.0	—	—	2.1	—	2.2	—	—	1.2	—
250SV43B	—	3.6	—	—	7.2	—	7.5	—	—	3.9	—	4.3
250SV46B	2.7	—	—	5.4	—	—	—	—	5.7	—	—	—
250SV82B	—	—	1.8	—	—	3.6	—	3.7	—	—	2.0	—
500SV43B	—	7.2	—	—	14.4	—	15.1	—	—	7.9	—	8.6
500SV46B	5.4	—	—	10.8	—	—	—	—	11.5	—	—	—
500SV82B	—	—	3.6	—	—	7.2	—	7.5	—	—	4.1	—
750SV43F	—	10.8	—	—	21.6	—	22.7	—	—	11.9	—	12.9
750SV46F	8.1	—	—	16.2	—	—	—	—	17.2	—	—	—
750SV82F	—	—	5.4	—	—	10.8	—	11.3	—	—	6.1	—
1S43F	—	14.4	—	—	28.8	—	30.3	—	—	15.8	—	17.3
1S46F	10.8	—	—	21.6	—	—	—	—	23.0	—	—	—
1S82F	—	—	7.2	—	—	14.4	—	15.1	—	—	8.1	—
1.5S43F	—	21.6	—	—	43.3	—	45.4	—	—	23.8	—	25.9
1.5S46F	16.2	—	—	32.4	—	—	—	—	34.5	—	—	—
1.5S82F	—	—	10.8	—	—	21.6	—	22.7	—	—	12.2	—
2S43F	—	28.8	—	—	57.7	—	60.6	—	—	31.7	—	34.6
2S46F	21.6	—	—	43.3	—	—	—	—	46.1	—	—	—
2S82F	—	—	14.4	—	—	28.8	—	30.3	—	—	16.3	—
3S43F	—	43.3	—	—	86.6	—	90.9	—	—	47.6	—	51.9
3S46F	32.4	—	—	64.9	—	—	—	—	69.1	—	—	—
3S82F	—	—	21.6	—	—	43.3	—	45.4	—	—	24.5	—
Wiring Diagram	8	8	10	9	9	9	9	9	9	10	10	8

Available Voltages for Load kVa

Table 23: Desired Load Voltage or Source Voltage: 208Y/120 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options												
	164Y/ 95	173Y/ 100	189Y/ 109	195Y/ 113	198Y/ 114	198Y/ 114	218Y/ 126	218Y/ 126	222Y/ 128	229Y/ 132	236Y/ 136	250Y/ 145	263Y/ 152
	Three Phase Load kVA												
50SV43A	—	0.7	—	—	1.5	—	1.5	—	—	0.8	—	0.9	—
50SV46A	0.5	—	—	1.1	—	—	—	—	1.2	—	—	—	0.7
50SV82A	—	—	0.3	—	—	0.7	—	0.7	—	—	0.4	—	—
100SV43A	—	1.5	—	—	3.0	—	3.1	—	—	1.6	—	1.8	—
100SV46A	1.1	—	—	2.2	—	—	—	—	2.4	—	—	—	1.4
100SV82A	—	—	0.7	—	—	1.5	—	1.5	—	—	0.8	—	—
150SV43A	—	2.2	—	—	4.5	—	4.7	—	—	2.4	—	2.7	—
150SV46A	1.6	—	—	3.3	—	—	—	—	3.6	—	—	—	2.1
150SV82A	—	—	1.1	—	—	2.2	—	2.3	—	—	1.2	—	—
250SV43B	—	3.7	—	—	7.5	—	7.8	—	—	4.1	—	4.5	—
250SV46B	2.8	—	—	5.6	—	—	—	—	6.0	—	—	—	3.5
250SV82B	—	—	1.8	—	—	3.7	—	3.9	—	—	2.1	—	—
500SV43B	—	7.5	—	—	15.0	—	15.7	—	—	8.2	—	9.0	—
500SV46B	5.6	—	—	11.2	—	—	—	—	12.0	—	—	—	7.1
500SV82B	—	—	3.7	—	—	7.5	—	7.8	—	—	4.2	—	—
750SV43F	—	11.2	—	—	22.5	—	23.6	—	—	12.3	—	13.5	—
750SV46F	8.4	—	—	16.8	—	—	—	—	18.0	—	—	—	10.6
750SV82F	—	—	5.6	—	—	11.2	—	11.8	—	—	6.3	—	—
1S43F	—	15.0	—	—	30.0	—	31.4	—	—	16.5	—	18.0	—
1S46F	11.2	—	—	22.5	—	—	—	—	24.0	—	—	—	14.2
1S82F	—	—	7.5	—	—	15.0	—	15.7	—	—	8.5	—	—
1.5S43F	—	22.5	—	—	45.0	—	47.2	—	—	24.7	—	27.0	—
1.5S46F	16.8	—	—	33.7	—	—	—	—	36.0	—	—	—	21.3
1.5S82F	—	—	11.2	—	—	22.5	—	23.6	—	—	12.7	—	—
2S43F	—	30.0	—	—	60.0	—	62.9	—	—	33.0	—	36	—
2S46F	22.5	—	—	45.0	—	—	—	—	48.0	—	—	—	28.4
2S82F	—	—	15.0	—	—	30.0	—	31.4	—	—	17.0	—	—
3S43F	—	45.0	—	—	90.0	—	94.3	—	—	49.5	—	54.1	—
3S46F	33.7	—	—	67.5	—	—	—	—	72.0	—	—	—	42.7
3S82F	—	—	22.5	—	—	45.0	—	47.2	—	—	25.5	—	—
Wiring Diagram	8	8	10	9	9	9	9	9	9	10	10	8	8

Table 24: Desired Load Voltage or Source Voltage: 230Y/133 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options													
	182Y/ 105	192Y/ 111	192Y/ 111	209Y/ 121	216Y/ 125	219Y/ 126	219Y/ 126	242Y/ 140	242Y/ 140	245Y/ 142	253Y/ 146	253Y/ 146	276Y/ 160	291Y/ 168
	Three Phase Load kVA													
50SV43A	—	0.8	—	—	—	1.6	—	1.7	—	—	0.9	—	—	—
50SV46A	0.6	—	—	—	1.2	—	—	—	—	1.3	—	—	—	0.7
50SV82A	—	—	0.4	0.4	—	—	0.8	—	0.8	—	—	0.4	0.5	—
100SV43A	—	1.6	—	—	—	3.3	—	3.4	—	—	1.8	—	—	—
100SV46A	1.2	—	—	—	2.4	—	—	—	—	2.6	—	—	—	1.5
100SV82A	—	—	0.8	0.8	—	—	1.6	—	1.7	—	—	0.9	1.0	—
150SV43A	—	2.4	—	—	—	4.9	—	5.2	—	—	2.7	—	—	—
150SV46A	1.8	—	—	—	3.7	—	—	—	—	3.9	—	—	—	2.3
150SV82A	—	—	1.2	1.2	—	—	2.4	—	26.0	—	—	1.3	1.4	—
250SV43B	—	4.1	—	—	—	8.3	—	8.7	—	—	4.5	—	—	—
250SV46B	3.1	—	—	—	6.2	—	—	—	—	6.6	—	—	—	3.9
250SV82B	—	—	2.0	2.0	—	—	4.1	—	4.3	—	—	2.2	2.4	—
500SV43B	—	8.3	—	—	—	16.6	—	17.4	—	—	9.1	—	—	—
500SV46B	6.2	—	—	—	12.4	—	—	—	—	13.2	—	—	—	7.8
500SV82B	—	—	4.1	4.1	—	—	8.3	—	8.7	—	—	4.5	4.9	—
750SV43F	—	12.4	—	—	—	24.9	—	26.2	—	—	13.6	—	—	—
750SV46F	9.3	—	—	—	18.6	—	—	—	—	19.8	—	—	—	11.8
750SV82F	—	—	6.2	6.2	—	—	12.4	—	13.1	—	—	6.8	7.4	—
1S43F	—	16.6	—	—	—	33.2	—	34.9	—	—	18.2	—	—	—
1S46F	12.4	—	—	—	24.9	—	—	—	—	26.5	—	—	—	15.7
1S82F	—	—	8.3	8.3	—	—	16.6	—	17.4	—	—	9.1	9.9	—
1.5S43F	—	24.9	—	—	—	49.8	—	52.3	—	—	27.3	—	—	—
1.5S46F	18.6	—	—	—	37.3	—	—	—	—	39.7	—	—	—	23.6
1.5S82F	—	—	12.4	12.4	—	—	24.9	—	26.2	—	—	13.6	14.9	—
2S43F	—	33.2	—	—	—	66.3	—	69.8	—	—	36.5	—	—	—
2S46F	24.9	—	—	—	49.8	—	—	—	—	53.0	—	—	—	31.5
2S82F	—	—	16.6	16.6	—	—	33.2	—	34.9	—	—	18.2	19.9	—
3S43F	—	49.8	—	—	—	99.5	—	104.7	—	—	54.7	—	—	—
3S46F	37.3	—	—	—	74.6	—	—	—	—	79.5	—	—	—	47.2
3S82F	—	—	24.9	24.9	—	—	49.8	—	52.3	—	—	27.3	29.8	—
Wiring Diagram	8	8	8	10	9	9	9	9	9	9	10	10	8	8

Available Voltages for Load kVa

Table 25: Desired Load Voltage or Source Voltage: 240Y/139 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Option											
	190Y/110	200Y/116	218Y/126	225Y/130	229Y/132	229Y/132	252Y/146	252Y/146	256Y/148	264Y/153	264Y/152	288Y/166
	Three Phase Load kVA											
50SV43A	—	—	—	—	1.7	—	1.8	—	—	0.9	—	1.0
50SV46A	0.6	—	—	1.3	—	—	—	—	1.3	—	—	—
50SV82A	—	0.4	0.4	—	—	0.8	—	0.9	—	—	0.4	—
100SV43A	—	—	—	—	3.4	—	3.6	—	—	1.9	—	2.0
100SV46A	1.3	—	—	2.6	—	—	—	—	2.7	—	—	—
100SV82A	—	0.8	0.8	—	—	1.7	—	1.8	—	—	0.9	—
150SV43A	—	—	—	—	5.2	—	5.4	—	—	2.8	—	3.1
150SV46A	1.9	—	—	3.9	—	—	—	—	4.1	—	—	—
150SV82A	—	1.3	1.3	—	—	2.6	—	2.7	—	—	1.4	—
250SV43B	—	—	—	—	8.6	—	9.0	—	—	4.7	—	5.2
250SV46B	3.2	—	—	6.5	—	—	—	—	6.9	—	—	—
250SV82B	—	2.1	2.1	—	—	4.3	—	4.5	—	—	2.3	—
500SV43B	—	—	—	—	17.3	—	18.1	—	—	9.5	—	10.3
500SV46B	6.5	—	—	12.9	—	—	—	—	13.8	—	—	—
500SV82B	—	4.3	4.3	—	—	8.6	—	9.0	—	—	4.7	—
750SV43F	—	—	—	—	25.9	—	27.2	—	—	14.2	—	15.5
750SV46F	9.7	—	—	19.4	—	—	—	—	20.7	—	—	—
750SV82F	—	6.5	6.5	—	—	12.9	—	13.6	—	—	7.1	—
1S43F	—	—	—	—	34.6	—	36.3	—	—	19.0	—	20.7
1S46F	12.9	—	—	25.9	—	—	—	—	27.7	—	—	—
1S82F	—	8.6	8.6	—	—	17.3	—	18.1	—	—	9.5	—
1.5S43F	—	—	—	—	51.9	—	54.5	—	—	28.5	—	31.1
1.5S46F	19.4	—	—	38.9	—	—	—	—	41.5	—	—	—
1.5S82F	—	12.9	12.9	—	—	25.9	—	27.2	—	—	14.2	—
2S43F	—	—	—	—	69.2	—	72.7	—	—	38.1	—	41.5
2S46F	25.9	—	—	51.9	—	—	—	—	55.4	—	—	—
2S82F	—	17.3	17.3	—	—	34.6	—	36.3	—	—	19.0	—
3S43F	—	—	—	—	103.9	—	109.1	—	—	57.1	—	62.3
3S46F	38.9	—	—	77.9	—	—	—	—	83.1	—	—	—
3S82F	—	25.9	25.9	—	—	51.9	—	54.5	—	—	28.5	—
Wiring Diagram	8	8	10	9	9	9	9	9	9	10	10	8

Table 26: Desired Load Voltage or Source Voltage: 380Y/220 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options									
	317Y/183	335Y/193	345Y/199	345Y/199	362Y/209	399Y/230	399Y/230	418Y/241	418Y/242	431Y/249
	Three Phase Load kVA									
50SV43A	—	—	—	1.3	—	2.8	—	—	—	1.5
50SV46A	—	1.0	—	—	2.0	—	—	—	2.2	—
50SV82A	0.6	—	0.6	—	—	—	1.4	0.7	—	—
100SV43A	—	—	—	2.7	—	5.7	—	—	—	3.1
100SV46A	—	2.0	—	—	4.1	—	—	—	4.5	—
100SV82A	1.3	—	1.3	—	—	—	2.8	1.5	—	—
150SV43A	—	—	—	4.1	—	8.6	—	—	—	4.6
150SV46A	—	3.0	—	—	6.1	—	—	—	6.7	—
150SV82A	2.0	—	2.0	—	—	—	4.3	2.2	—	—
250SV43B	—	—	—	6.8	—	14.4	—	—	—	7.7
250SV46B	—	5.1	—	—	10.2	—	—	—	11.3	—
250SV82B	3.4	—	3.4	—	—		7.2	3.7	—	—
500SV43B	—	—	—	13.7	—	28.8	—	—	—	15.5
500SV46B	—	10.2	—	—	20.5	—	—	—	22.6	—
500SV82B	6.8	—	6.8	—	—		14.4	7.5	—	—
750SV43F	—	—	—	20.5	—	43.1	—	—	—	23.3
750SV46F	—	15.4	—	—	30.8	—	—	—	33.9	—
750SV82F	10.2	—	10.2	—	—	—	21.6	11.3	—	—
1S43F	—	—	—	27.4	—	57.5	—	—	—	31.1
1S46F	—	20.5	—	—	41.1	—	—	—	45.2	—
1S82F	13.7	—	13.7	—	—	—	28.7	15.0	—	—
1.5S43F	—	—	—	41.1	—	86.3	—	—	—	46.6
1.5S46F	—	30.8	—	—	61.7	—	—	—	67.8	—
1.5S82F	20.5	—	20.5	—	—	—	43.1	22.6	—	—
2S43F	—	—	—	54.8	—	115.1	—	—	—	62.2
2S46F	—	41.1	—	—	82.2	—	—	—	90.5	—
2S82F	27.4	—	27.4	—	—	—	57.5	30.1	—	—
3S43F	—	—	—	82.2	—	172.7	—	—	—	93.3
3S46F	—	61.7	—	—	123.4	—	—	—	135.7	—
3S82F	41.1	—	41.1	—	—	—	86.3	45.2	—	—
Wiring Diagram	8	8	10	10	9	9		10	9	10

Available Voltages for Load kVa

Table 27: Desired Load Voltage or Source Voltage: 400Y/231 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options										
	333Y/192	353Y/204	364Y/210	364Y/210	381Y/220	420Y/243	420Y/243	426Y/246	440Y/254	440Y/254	453Y/262
	Three Phase Load kVA										
50SV43A	—	—	—	1.4	—	3.0	—	3.0	—	—	1.6
50SV46A	—	1.0	—	—	2.1	—	—	—	2.3	—	—
50SV82A	0.7	—	0.7	—	—	—	1.5	—	—	0.7	—
100SV43A	—	—	—	2.8	—	6.0	—	6.1	—	—	3.2
100SV46A	—	2.1	—	—	4.3	—	—	—	4.7	—	—
100SV82A	1.4	—	1.4	—	—	—	3.0	—	—	1.5	—
150SV43A	—	—	—	4.3	—	9.0	—	9.2	—	—	4.9
150SV46A	—	3.2	—	—	6.5	—	—	—	7.1	—	—
150SV82A	2.1	—	2.1	—	—	—	4.5	—	—	2.3	—
250SV43B	—	—	—	7.2	—	15.1	—	15.3	—	—	8.1
250SV46B	—	5.4	—	—	10.8	—	—	—	11.9	—	—
250SV82B	3.6	—	3.6	—	—	—	7.5	—	—	3.9	—
500SV43B	—	—	—	14.4	—	30.3	—	30.7	—	—	16.3
500SV46B	—	10.8	—	—	21.6	—	—	—	23.8	—	—
500SV82B	7.2	—	7.2	—	—	—	15.1	—	—	7.9	—
750SV43F	—	—	—	21.6	—	45.4	—	46.1	—	—	24.5
750SV46F	—	16.2	—	—	32.4	—	—	—	35.7	—	—
750SV82F	10.8	—	10.8	—	—	—	22.7	—	—	11.9	—
1S43F	—	—	—	28.8	—	60.6	—	61.4	—	—	32.6
1S46F	—	21.6	—	—	43.3	—	—	—	47.6	—	—
1S82F	14.4	—	14.4	—	—	—	30.3	—	—	15.8	—
1.5S43F	—	—	—	43.3	—	90.9	—	92.2	—	—	49.0
1.5S46F	—	32.4	—	—	64.9	—	—	—	71.4	—	—
1.5S82F	21.6	—	21.6	—	—	—	45.4	—	—	23.8	—
2S43F	—	—	—	57.7	—	121.2	—	122.9	—	—	65.3
2S46F	—	43.3	—	—	86.6	—	—	—	95.2	—	—
2S82F	28.8	—	28.8	—	—	—	60.6	—	—	31.7	—
3S43F	—	—	—	86.6	—	181.8	—	184.4	—	—	98.0
3S46F	—	64.9	—	—	129.9	—	—	—	142.8	—	—
3S82F	43.3	—	43.3	—	—	—	90.9	—	—	47.6	—
Wiring Diagram	8	8	10	10	9	9	9	9	9	10	10

Table 28: Desired Load Voltage or Source Voltage: 415Y/240 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options										
	346Y/200	366Y/212	377Y/218	377Y/218	395Y/228	436Y/252	436Y/252	442Y/255	457Y/264	457Y/264	470Y/272
	Three Phase Load kVA										
50SV43A	—	—	—	1.5	—	3.1	—	3.1	—	—	1.7
50SV46A	—	1.1	—	—	2.2	—	—	—	2.4	—	—
50SV82A	0.7	—	0.7	—	—	—	1.5	—	—	0.8	—
100SV43A	—	—	—	2.9	—	6.2	—	6.3	—	—	3.3
100SV46A	—	2.2	—	—	4.4	—	—	—	4.9	—	—
100SV82A	1.5	—	1.5	—	—	—	3.1	—	—	1.6	—
150SV43A	—	—	—	4.4	—	9.4	—	9.2	—	—	5.0
150SV46A	—	3.3	—	—	6.7	—	—	—	7.2	—	—
150SV82A	2.2	—	2.2	—	—	—	4.7	—	—	2.4	—
250SV43B	—	—	—	7.4	—	15.7	—	15.9	—	—	8.4
250SV46B	—	5.6	—	—	11.2	—	—	—	12.3	—	—
250SV82B	3.7	—	3.7	—	—	—	7.8	—	—	4.1	—
500SV43B	—	—	—	14.9	—	31.4	—	31.9	—	—	16.9
500SV46B	—	11.2	—	—	22.4	—	—	—	24.7	—	—
500SV82B	7.4	—	7.4	—	—	—	15.7	—	—	8.2	—
750SV43F	—	—	—	22.4	—	47.2	—	47.8	—	—	25.4
750SV46F	—	16.8	—	—	33.6	—	—	—	37.1	—	—
750SV82F	11.2	—	11.2	—	—	—	23.6	—	—	12.3	—
1S43F	—	—	—	29.9	—	62.9	—	63.8	—	—	33.9
1S46F	—	22.4	—	—	44.9	—	—	—	49.4	—	—
1S82F	14.9	—	14.9	—	—	—	31.4	—	—	16.4	—
1.5S43F	—	—	—	44.9	—	94.3	—	95.6	—	—	50.8
1.5S46F	—	33.6	—	—	67.3	—	—	—	74.2	—	—
1.5S82F	22.4	—	22.4	—	—	—	47.2	—	—	24.7	—
2S43F	—	—	—	59.9	—	125.8	—	127.5	—	—	67.8
2S46F	—	44.9	—	—	89.8	—	—	—	98.9	—	—
2S82F	29.9	—	29.9	—	—	—	62.9	—	—	32.9	—
3S43F	—	—	—	89.8	—	188.7	—	191.3	—	—	101.7
3S46F	—	67.3	—	—	134.7	—	—	—	148.4	—	—
3S82F	44.9	—	44.9	—	—	—	94.3	—	—	49.4	—
Wiring Diagram	8	10	10	10	9	9	9	9	9	10	10

Available Voltages for Load kVa

Table 29: Desired Load Voltage or Source Voltage: 460Y/266 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options						
	383Y/221	406Y/235	418Y/242	432Y/250	490Y/283	506Y/292	552Y/319
	Three Phase Load kVA						
50SV43A	—	—	1.6	—	—	—	—
50SV46A	—	1.2	—	2.4	2.6	—	—
50SV82A	0.8	—	—	—	—	0.9	1.0
100SV43A	—	—	3.3	—	—	—	—
100SV46A	—	2.4	—	4.9	5.3	—	—
100SV82A	1.6	—	—	—	—	1.8	1.9
150SV43A	—	—	4.9	—	—	—	—
150SV46A	—	3.7	—	7.4	7.9	—	—
150SV82A	2.4	—	—	—	—	2.7	2.9
250SV43B	—	—	8.3	—	—	—	—
250SV46B	—	6.2	—	12.4	13.2	—	—
250SV82B	4.1	—	—	—	—	4.5	4.9
500SV43B	—	—	16.6	—	—	—	—
500SV46B	—	12.4	—	24.9	26.5	—	—
500SV82B	8.3	—	—	—	—	9.1	9.9
750SV43F	—	—	24.9	—	—	—	—
750SV46F	—	18.6	—	37.3	39.7	—	—
750SV82F	12.4	—	—	—	—	13.6	14.9
1S43F	—	—	33.2	—	—	—	—
1S46F	—	24.9	—	49.8	53.0	—	—
1S82F	16.6	—	—	—	—	18.2	19.9
1.5S43F	—	—	49.8	—	—	—	—
1.5S46F	—	37.3	—	74.6	79.5	—	—
1.5S82F	24.9	—	—	—	—	27.3	29.8
2S43F	—	—	66.3	—	—	—	—
2S46F	—	49.8	—	99.5	106.0	—	—
2S82F	33.2	—	—	—	—	36.5	39.8
3S43F	—	—	99.5	—	—	—	—
3S46F	—	74.6	—	149.3	159.0	—	—
3S82F	49.8	—	—	—	—	54.7	59.7
Wiring Diagram	8	10	10	9	9	10	8

Table 30: Desired Load Voltage or Source Voltage: 480Y/277 V Three Phase, 60 HZ, Three Transformers Required

Transformer Catalog Number	Voltage Options					
	400Y/231	424Y/245	436Y/252	436Y/252	450Y/260	528Y/305
	Three Phase Load kVA					
50SV43A	—	—	1.7	1.5	—	—
50SV46A	—	1.3	—	—	2.6	—
50SV82A	0.8	—	—	—	—	1.9
100SV43A	—	—	3.4	3.1	—	—
100SV46A	—	2.6	—	—	5.2	—
100SV82A	1.7	—	—	—	—	3.8
150SV43A	—	—	5.2	4.7	—	—
150SV46A	—	3.9	—	—	7.7	—
150SV82A	2.6	—	—	—	—	5.7
250SV43B	—	—	8.6	7.8	—	—
250SV46B	—	6.5	—	—	12.9	—
250SV82B	4.3	—	—	—	—	9.5
500SV43B	—	—	17.3	15.6	—	—
500SV46B	—	12.9	—	—	25.9	—
500SV82B	8.6	—	—	—	—	19.0
750SV43F	—	—	25.9	23.5	—	—
750SV46F	—	19.4	—	—	38.9	—
750SV82F	12.9	—	—	—	—	28.5
1S43F	—	—	34.6	31.4	—	—
1S46F	—	25.9	—	—	51.9	—
1S82F	17.3	—	—	—	—	38.1
1.5S43F	—	—	51.9	47.1	—	—
1.5S46F	—	38.9	—	—	77.9	—
1.5S82F	25.9	—	—	—	—	57.1
2S43F	—	—	69.2	62.8	—	—
2S46F	—	51.9	—	—	103.9	—
2S82F	34.6	—	—	—	—	76.2
3S43F	—	—	103.9	94.2	—	—
3S46F	—	77.9	—	—	155.8	—
3S82F	51.9	—	—	—	—	114.3
Wiring Diagram	8	10	10	10	9	7

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