

JEFFERSON®

Buck-Boost Transformers

0.050 to 10 KVA



TYPICAL APPLICATIONS

- *Voltage line drops*
- *Landscape lighting*
- *Low voltage lighting*
- *International voltage adaptation*
- *Motors*

For the name of your local representative, or for technical assistance, call

1-800-892-3755



Buck-Boost Transformers

features & benefits

- *Copper leadwire termination used for the primary, secondary and ground for easy, flexible connections.*
- *Heavy sheet metal enclosures for better durability in severe industrial applications.*
- *Large connection compartment with knockouts for ease of wiring and installation.*
- *Encapsulated with electrical grade epoxy and silica sand to completely seal the core and coils from moisture and contaminants.*
- *Heat applied ASA-61 Gray Powder Coat Finish to resist corrosion in industrial environments.*
- *Quiet operation for more flexibility in choice of mounting locations.*
- *Convenient lifting hooks on all units above 3 KVA to make installation easier.*
- *Type NEMA 3R enclosures for outdoor use to protect against rain, sleet or ice.*
- *Cores made from high quality electrical steel for increased efficiency and lower operating costs.*
- *Built in accordance with ANSI C57.12.*
- *Convenient wall mount design.*
- *UL Listed and CSA Approved.*
- *50/60 Hz. operation on transformers 2 KVA and smaller for more versatility.*
- *Slotted mounting holes for quick and easy mounting.*
- *180°C insulation system standard with 115°C temperature rise for longer, more reliable life.*
- *Wiring diagram permanently affixed to wiring compartment cover to avoid loss.*
- *Meets or exceeds all applicable NEMA, ANSI, OSHA, UL and CSA requirements.*
- *Made in U.S.A.*

Jefferson Electric single-phase Buck-Boost transformers are the most economical means available for stepping voltages up or down in many common applications. They can be used as isolating (or insulating) transformers for transforming standard line voltages to low secondary voltages. Also to buck or boost off-standard line voltages to satisfy standard load voltage requirements when hooked in Auto Configuration.

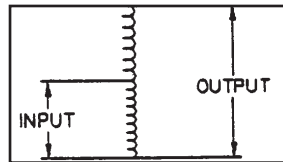
These transformers are designed for use on single- or three-phase circuits to supply 12/24 or 16/32 volt secondaries with 120/240 volt primary, and 24/48 volt secondaries with 240/480 volt primary.

When used in Auto Configuration, these small, compact and lightweight units will handle a large KVA load in comparison to their physical size and relative cost. When used as isolation transformers, they have innumerable low voltage applications.

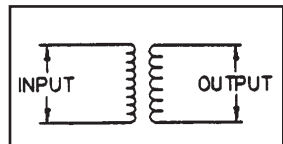
The difference between an autotransformer and an isolation transformer.

In an autotransformer, the input (or primary) and the output (or secondary) are electrically connected, while in an isolation transformer they are completely separated, as shown at right.

Only a portion of the electrical energy is changed in an autotransformer, the remainder flowing directly between the primary and secondary. In an isolation transformer, all the energy is transformed. For these reasons, an autotransformer is smaller, lighter and less costly than a comparable isolation transformer.



Autotransformer



Isolation (or Insulating) Transformer

Solve over/under line voltage problems efficiently and economically.

Electrical equipment is manufactured to operate most efficiently when the line voltage is equal to or nearly equal to the nameplate rating of the equipment. A motor operated at a voltage substantially under its nameplate rating may run constantly on the starting windings, resulting in overheating and possible burn-out. The same motor operated at a voltage substantially over its nameplate rating is subject to excessive heat rise, often extending beyond the insulation temperature limits, which may eventually cause the motor to burn out.

CAUTION: *Buck-Boost transformers will not compensate for fluctuating line voltages. They should only be used when line voltage is relatively constant.*

Buck-Boost Transformers

How to Use the Buck-Boost Rapid Selector Charts:

You will need the following information:

Line voltage:

This can be determined by measuring the supply line voltage with a voltmeter.

Load voltage:

The voltage at which your equipment was designed to operate. Usually listed on the equipment nameplate.

Load KVA or load amps:

One of these will usually be listed on the nameplate. You do not need both.

Supply line and equipment frequencies:

This will be either 50 or 60 cycles. The supply line frequency must be the same as the frequency of the equipment to be operated.

Supply line and equipment phase:

Either single-phase or three-phase. The line phase must be the same as the equipment.

The type of electrical configuration:

Delta or Wye.

Follow These Five Easy Steps:

1. Find the appropriate single-phase, three-phase delta or three-phase wye table.
2. Read down the voltage column and find the nearest ratio of required load voltage to line voltage for the application desired. (High and low voltage may be either input or output voltage depending on the circumstances.)
3. Reading horizontally across the line beginning with your application voltage ratio, locate in one of the KVA columns a KVA capacity equal to or larger than your load requirement.
4. Note the two digit number at the top of the KVA column listing the KVA capacity you require.
5. In the catalog number column, add these two digits to the catalog number next to the voltage ratio you found in step one.

EXAMPLE: (Assume the following information)

1. A reasonably constant line voltage of 440 volts.
2. A required equipment voltage of 480 volts.
3. 26.0 KVA load capacity needed.
4. Single-phase line and equipment.

In the voltage column, 437 is closest to our line voltage of 440. The 480 high voltage meets our requirements exactly.

Reading horizontally across this line, find 30.0 KVA, the closest larger KVA to our required 26.0.

Going to the very top of this column, take the two digit number, 81, and add it on the end of the catalog number on the same line as our high/low voltage. The catalog number 216-14, with 81 added on the end, is 216-1481.

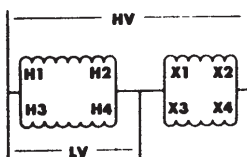
The listings here do not cover all the possible applications of these versatile transformers. Please call for advice or a quotation on special applications.

Single-Phase KVA Capacity of Encapsulated Powerformers®

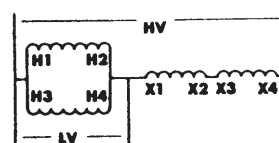
MAXIMUM LOAD CAPABILITIES

Voltage	Catalog Number	Load Required	KVA Capacity											Wiring Diagram
			01 .100 KVA	11 .150 KVA	21 .250 KVA	31 .500 KVA	41 .750 KVA	51 1.0 KVA	61 1.5 KVA	71 2.0 KVA	81 3.0 KVA	91 5.0 KVA		
95/120	216-12	LOAD	KVA	.37	.56	.94	1.8	2.8	3.7	5.6	7.5	11.2	18.8	56B
			AMPS	3.95	5.93	9.89	19.7	29.6	39.5	59.3	79.1	118	197	
100/120	216-11	LOAD	KVA	.50	.75	1.25	2.50	3.7	5.0	7.5	10.0	15.0	25.0	56B
			AMPS	5.0	7.5	12.5	25.0	37.0	50.0	75.0	100	150	250	
106/120	216-12	LOAD	KVA	.75	1.12	1.87	3.7	5.6	7.5	11.2	15.0	22.5	37.0	56A
			AMPS	7.07	10.5	17.6	34.9	52.8	70.7	105	141	212	349	
109/120	216-11	LOAD	KVA	1.00	1.50	2.50	5.0	7.5	10.0	15.0	20.0	30.0	50.0	56A
			AMPS	9.17	13.7	22.9	45.8	68.8	91.7	137	183	275	458	
120/132	216-11	LOAD	KVA	1.10	1.65	2.75	5.5	8.2	11.0	16.5	22.0	33.0	55.0	56A
			AMPS	9.17	13.7	22.9	45.8	68.8	91.7	137	183	275	458	
120/136	216-12	LOAD	KVA	.85	1.27	2.12	4.2	6.3	8.5	12.7	17.0	25.5	42.0	56A
			AMPS	7.08	10.5	17.6	35.0	52.5	70.8	105	141	212	350	
120/144	216-11	LOAD	KVA	.60	.90	1.50	3.0	4.5	6.0	9.0	12.0	18.0	30.0	56B
			AMPS	5.0	7.5	12.5	25.0	37.5	50.0	75.0	100	150	250	
120/152	216-12	LOAD	KVA	.47	.71	1.18	2.3	3.5	4.7	7.1	9.5	14.2	23.0	56B
			AMPS	3.91	5.91	9.83	19.1	29.1	39.1	59.1	79.1	118	191	
200/240	216-14	LOAD	KVA	.50	.75	1.25	2.5	3.7	5.0	7.5	10.0	15.0	25.0	56B
			AMPS	2.50	3.75	6.25	12.5	18.7	25.0	37.5	50.0	75.0	125	
208/236	216-12	LOAD	KVA	.73	1.10	1.84	3.6	5.5	7.3	11.0	14.7	22.1	36.8	56D
			AMPS	3.53	5.28	8.82	17.4	26.4	35.3	52.8	70.7	106	174	
212/240	216-12	LOAD	KVA	.75	1.12	1.87	3.7	5.6	7.5	11.2	15.0	22.5	37.0	56D
			AMPS	3.53	5.28	8.82	17.4	26.4	35.3	52.8	70.7	106	174	
208/230	216-11	LOAD	KVA	.95	1.4	2.3	4.7	7.1	9.5	14.3	19.0	28.6	47.6	56D
			AMPS	4.58	6.88	11.4	22.9	34.4	45.8	68.8	91.7	137	229	
218/240	216-11	LOAD	KVA	1.00	1.5	2.5	5.0	7.5	10.0	15.0	20.0	30.0	50.0	56D
			AMPS	4.58	6.88	11.4	22.9	34.4	45.8	68.8	91.7	137	229	
225/240	216-12	LOAD	KVA	1.5	2.25	3.75	7.5	11.2	15.0	22.5	30.0	45.0	75.0	56C
			AMPS	6.66	10.0	16.6	33.3	49.7	66.6	100	133	200	333	
230/276	216-14	LOAD	KVA	.57	.86	1.43	2.8	4.3	5.7	8.6	11.5	17.2	28.7	56B
			AMPS	2.50	3.75	6.25	12.5	18.7	25.0	37.5	50.0	75.0	124	
240/252	216-11	LOAD	KVA	2.1	3.15	5.25	10.5	15.7	21.0	31.5	42.0	63.0	105	56C
			AMPS	8.75	13.1	21.8	43.7	65.4	87.5	131	175	262	437	
240/264	216-11	LOAD	KVA	1.1	1.65	2.75	5.5	8.2	11.0	16.5	22.0	33.0	55.0	56D
			AMPS	4.58	6.87	11.4	22.9	34.1	45.8	68.7	91.6	137	229	
240/272	216-12	LOAD	KVA	.85	1.27	2.12	4.2	6.3	8.5	12.7	17.0	25.5	42.0	56D
			AMPS	3.54	5.29	8.83	17.5	26.2	35.4	52.9	70.8	106	175	
240/288	216-14	LOAD	KVA	.60	.90	1.50	3.0	4.5	6.0	9.0	12.0	18.0	30.0	56B
			AMPS	2.5	3.75	6.25	12.5	18.7	25.0	37.5	50.0	75.0	125	
437/480	216-14	LOAD	KVA	1.00	1.50	2.50	5.0	7.5	10.0	15.0	20.0	30.0	50.0	56D
			AMPS	2.28	3.43	5.72	11.4	17.1	22.8	34.3	45.7	68.6	114	
457/480	216-14	LOAD	KVA	2.0	3.0	5.0	10.0	15.0	20.0	30.0	40.0	60.0	100	56C
			AMPS	4.37	6.56	10.9	21.8	32.8	43.7	65.6	87.5	131	218	
480/504	216-14	LOAD	KVA	2.1	3.15	5.25	10.5	15.7	21.0	31.5	42.0	63.0	105	56C
			AMPS	4.37	6.56	10.9	21.8	32.8	43.7	65.6	87.5	131	218	
480/528	216-14	LOAD	KVA	1.1	1.65	2.75	5.5	8.2	11.0	16.5	22.0	33.0	55.0	56D
			AMPS	2.29	3.43	5.72	11.4	17.0	22.9	34.3	45.8	68.7	114	

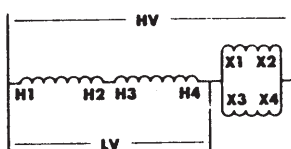
Wiring Diagram 56A



Wiring Diagram 56B



Wiring Diagram 56C



Wiring Diagram 56D



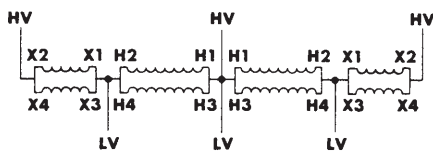
BUCK-BOOST

Three-Phase KVA Capacity of Encapsulated Powerformers® Connected in Open-Delta

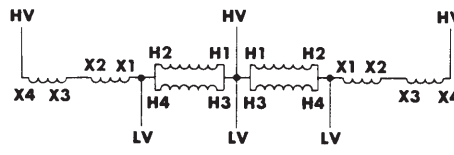
MAXIMUM LOAD CAPABILITIES REQUIRING TWO POWERFORMERS

Voltage	Catalog Number	Load Required	KVA Capacity											Wiring Diagram
			01 .100 KVA	11 .150 KVA	21 .250 KVA	31 .500 KVA	41 .750 KVA	51 1.0 KVA	61 1.5 KVA	71 2.0 KVA	81 3.0 KVA	91 5.0 KVA		
200/240	216-14	LOAD	KVA	.86	1.29	2.1	4.3	6.4	8.6	12.9	17.2	25.0	43.0	57B
			AMPS	2.50	3.75	6.25	12.5	18.5	25.0	37.5	50.0	75.0	125	
208/236	216-12	LOAD	KVA	1.27	1.91	3.1	6.3	9.5	12.7	19.1	25.5	38.2	63.7	57D
			AMPS	3.53	5.28	8.82	17.4	26.4	35.3	52.8	70.7	106	174	
212/240	216-12	LOAD	KVA	1.29	1.94	3.2	6.4	9.7	12.9	19.4	25.8	38.0	64.0	57D
			AMPS	3.53	5.28	8.82	17.4	26.4	35.3	52.8	70.7	106	174	
208/230	216-11	LOAD	KVA	1.65	2.47	4.1	8.2	12.3	16.5	24.7	33.0	49.5	82.5	57D
			AMPS	4.58	6.88	11.4	22.9	34.4	45.8	68.8	91.7	137	229	
218/240	216-11	LOAD	KVA	1.73	2.59	4.3	8.6	12.9	17.3	25.9	34.6	51.0	86.0	57D
			AMPS	4.58	6.88	11.4	22.9	34.4	45.8	68.8	91.7	137	229	
225/240	216-12	LOAD	KVA	2.59	3.89	6.4	12.9	19.4	25.9	38.9	51.9	77.0	129	57C
			AMPS	6.66	10.0	16.6	33.3	49.7	66.6	100	133	200	333	
229/240	216-11	LOAD	KVA	3.46	5.18	8.6	17.3	25.9	34.6	51.8	69.2	103	173	57C
			AMPS	8.73	13.1	21.8	43.6	65.5	87.3	131	174	262	436	
230/253	216-14	LOAD	KVA	1.81	2.72	4.5	9.0	13.6	18.1	27.2	36.3	54.0	90.0	57A
			AMPS	4.56	6.82	11.3	22.6	33.9	45.6	68.2	91.3	136	226	
230/276	216-14	LOAD	KVA	.99	1.49	2.4	4.9	7.4	9.9	14.9	19.9	29.0	49.0	57B
			AMPS	2.50	3.75	6.25	12.5	18.7	25.0	37.5	50.0	75.0	125	
240/252	216-11	LOAD	KVA	3.64	5.47	9.1	18.2	27.2	36.4	54.7	72.8	109	182	57C
			AMPS	8.75	13.1	21.8	43.7	65.4	87.5	131	175	262	437	
240/264	216-11	LOAD	KVA	1.9	2.86	4.7	9.5	14.2	19.0	28.6	38.1	57.0	95.0	57D
			AMPS	4.58	6.87	11.4	22.9	34.1	45.8	68.7	91.6	137	229	
240/272	216-12	LOAD	KVA	1.47	2.20	3.6	7.3	11.0	14.7	22.0	29.4	44.1	73.6	57D
			AMPS	3.54	5.29	8.83	17.5	26.2	35.4	52.9	70.8	106	175	
240/288	216-14	LOAD	KVA	1.03	1.55	2.5	5.1	7.7	10.3	15.5	20.7	31.0	51.0	57B
			AMPS	2.5	3.75	6.25	12.5	18.7	25.0	37.5	50.0	75.0	125	
437/480	216-14	LOAD	KVA	1.73	2.59	4.3	8.6	12.9	17.3	25.9	34.6	51.0	86.0	57D
			AMPS	2.28	3.43	5.72	11.4	17.1	22.8	34.3	45.7	68.6	117	
457/480	216-14	LOAD	KVA	3.46	5.18	8.6	17.3	25.9	34.6	51.8	69.2	103	173	57C
			AMPS	4.37	6.56	10.9	21.8	32.8	43.7	65.6	87.5	131	218	
480/504	216-14	LOAD	KVA	3.64	5.47	9.1	18.2	27.2	36.4	54.7	72.8	109	183	57C
			AMPS	4.37	6.56	10.9	21.8	32.8	43.7	65.6	87.5	131	218	
480/528	216-14	LOAD	KVA	1.9	2.86	4.7	9.5	14.2	19.0	28.6	38.1	57.0	95.0	57D
			AMPS	2.29	3.43	5.72	11.4	17.0	22.9	34.3	45.8	68.7	114	

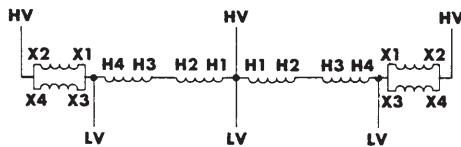
Wiring Diagram 57A



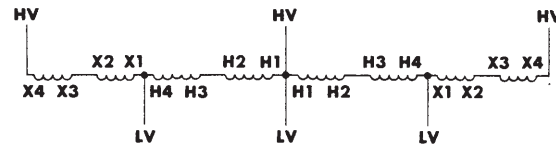
Wiring Diagram 57B



Wiring Diagram 57C



Wiring Diagram 57D

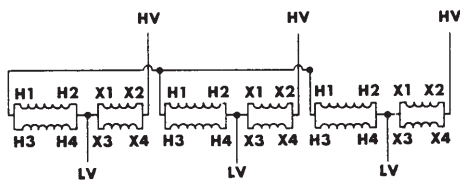


Three-Phase KVA Capacity of Encapsulated Powerformers® Connected in Wye

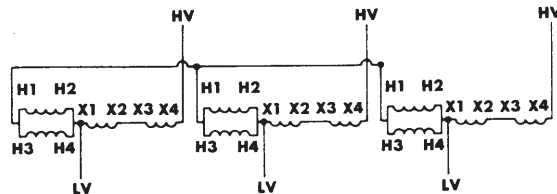
MAXIMUM LOAD CAPABILITIES REQUIRING THREE POWERFORMERS

Voltage	Catalog Number	Load Required	KVA Capacity											Wiring Diagram
			01 .100 KVA	11 .150 KVA	21 .250 KVA	31 .500 KVA	41 .750 KVA	51 1.0 KVA	61 1.5 KVA	71 2.0 KVA	81 3.0 KVA	91 5.0 KVA		
164/208	216-12	LOAD	KVA	1.1	1.7	2.8	5.6	8.4	11.2	16.8	22.0	34.0	56.0	58B
			AMPS	3.89	5.89	9.79	18.9	29.4	38.9	58.9	78.9	117	197	
173/208	216-11	LOAD	KVA	1.5	2.2	3.7	7.5	11.2	15.0	22.5	30.0	45.0	75.0	58B
			AMPS	5.0	7.5	12.5	25.0	37.0	50.0	75.0	100	150	250	
183/208	216-12	LOAD	KVA	2.2	3.3	5.6	11.2	16.8	22.5	33.7	45.0	67.0	112	58A
			AMPS	7.07	10.5	17.6	34.9	52.8	70.7	105	141	212	354	
189/208	216-11	LOAD	KVA	3.0	4.5	7.5	15.0	22.5	30.0	45.0	60.0	90.0	150	58A
			AMPS	9.17	13.7	22.9	45.8	68.8	91.7	137	183	275	458	
208/229	216-11	LOAD	KVA	3.3	4.9	8.2	16.5	24.7	33.0	49.5	66.0	99.0	165	58A
			AMPS	9.17	13.7	22.9	45.8	68.8	91.7	137	183	275	458	
208/235	216-12	LOAD	KVA	2.5	3.8	6.3	12.7	19.1	25.5	38.2	51.0	76.5	127	58A
			AMPS	7.08	10.5	17.6	35.0	52.5	70.8	105	141	212	350	
208/249	216-11	LOAD	KVA	1.8	2.7	4.5	9.0	13.5	18.0	27.0	36.0	54.0	90.0	58B
			AMPS	5.0	7.5	12.5	25.0	37.5	50.0	75.0	100	150	250	
208/263	216-12	LOAD	KVA	1.4	2.1	3.5	7.1	10.6	14.2	21.4	28.0	42.0	71.0	58B
			AMPS	3.91	5.91	9.83	19.1	29.1	39.1	59.1	79.1	118	191	
346/416	216-14	LOAD	KVA	1.5	2.2	3.7	7.5	11.2	15.0	22.5	30.0	45.0	75.0	58B
			AMPS	2.5	3.75	6.25	12.5	18.5	25.0	37.5	50.0	75.0	125	
367/416	216-12	LOAD	KVA	2.2	3.3	5.6	11.2	16.8	22.5	33.7	45.0	67.0	112	58D
			AMPS	3.53	5.28	8.82	17.4	26.4	35.3	52.8	70.7	106	174	
378/416	216-11	LOAD	KVA	3.0	4.5	7.5	15.0	22.5	30.0	45.0	60.0	90.0	150	58D
			AMPS	4.58	6.88	11.4	22.9	34.4	45.8	68.8	91.7	137	229	
390/416	216-12	LOAD	KVA	4.5	6.7	11.2	22.5	33.7	45.0	67.5	90.0	135	225	58C
			AMPS	6.66	10.0	16.6	33.3	49.7	66.6	100	133	200	333	
397/416	216-11	LOAD	KVA	6.0	9.0	15.0	30.0	45.0	60.0	90.0	120	180	300	58C
			AMPS	8.73	13.1	21.8	43.6	65.5	87.3	131	174	262	436	
398/438	216-14	LOAD	KVA	3.1	4.7	7.8	15.7	23.6	31.5	47.2	63.0	94.0	157	58A
			AMPS	4.56	6.82	11.3	22.6	33.9	45.6	68.2	91.3	136	229	
398/478	216-14	LOAD	KVA	1.7	2.5	4.3	8.6	12.9	17.2	25.9	34.0	51.0	86.0	58B
			AMPS	2.50	3.75	6.25	12.5	18.7	25.0	37.5	50.0	75.0	125	
416/437	216-11	LOAD	KVA	6.3	9.4	15.7	31.5	47.2	63.0	94.5	126	189	315	58C
			AMPS	8.75	13.1	21.8	43.7	65.4	87.5	131	175	262	437	
416/443	216-12	LOAD	KVA	4.8	7.2	12.0	24.0	36.0	48.0	72.0	96.0	144	240	58C
			AMPS	6.66	10.0	16.6	33.3	50.0	66.6	100	133	200	333	
416/457	216-11	LOAD	KVA	3.3	4.9	8.2	16.5	24.7	33.0	49.5	66.0	99.0	165	58D
			AMPS	4.58	6.87	11.4	22.9	34.1	45.8	68.7	91.6	137	229	
416/471	216-12	LOAD	KVA	2.5	3.8	6.3	12.7	19.1	25.5	38.2	51.0	76.5	127	58D
			AMPS	3.54	5.29	8.83	17.5	26.2	35.4	52.9	70.8	106	175	
416/498	216-14	LOAD	KVA	1.8	2.7	4.5	9.0	13.5	18.0	27.0	36.0	54.0	90.0	58B

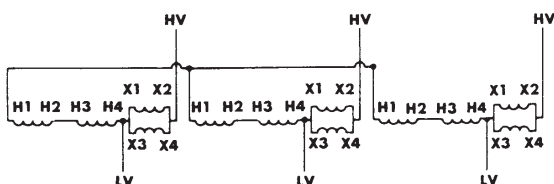
Wiring Diagram 58A



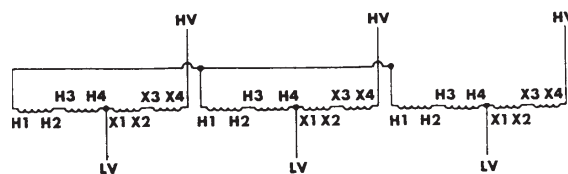
Wiring Diagram 58B



Wiring Diagram 58C



Wiring Diagram 58D



BUCK-BOOST

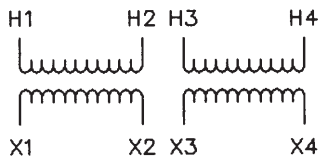
Single-Phase • 600V Class									
KVA	Catalog Number	Taps	Temp. Rise °C	Dimensions (Inches)				Wiring Diagram	Approx. Ship Wt. (lbs)
				Figure	Height A	Width B	Depth C		
120 x 240 Volts – 12/24 Volts									
.050*	216-1100-000	None	55	1	8.25	3.63	3.5	60A	5.25
.100*	216-1101-000			1	8.25	3.63	3.5		6.13
.150*	216-1111-000			1	8.25	3.63	3.5		7.25
.250*	216-1121-000		115	1	9.38	4.38	4.06		11
.500*	216-1131-000			1	9.38	4.38	4.06		14
.750*	216-1141-000			1	11.5	5.13	4.75		19
1*	216-1151-000			1	11.5	5.13	4.75		26
1.5*	216-1161-000			1	13	5.88	5.31		30
2*	216-1171-000			1	13	5.88	5.31		41
3	216-1181-000			1	15.63	7.5	6.75		65
5	216-1191-000			2	15.63	7.5	6.75		78
7.5	216-2101-000		2	21.16	16.00	10.75	175		
10	216-2111-000		2	21.16	16.00	10.75	200		
120 x 240 Volts – 16/32 Volts									
.050*	216-1200-000	None	55	1	8.25	3.63	3.5	60B	5.25
.100*	216-1201-000			1	8.25	3.63	3.5		6.13
.150*	216-1211-000			1	8.25	3.63	3.5		7.25
.250*	216-1221-000		115	1	9.38	4.38	4.06		11
.500*	216-1231-000			1	9.38	4.38	4.06		14
.750*	216-1241-000			1	11.5	5.13	4.75		19
1*	216-1251-000			1	11.5	5.13	4.75		26
1.5*	216-1261-000			1	13	5.88	5.31		31
2*	216-1271-000			1	13	5.88	5.31		41
3	216-1281-000			1	15.63	7.5	6.75		65
5	216-1291-000			2	15.63	7.5	6.75		78
7.5	216-2201-000		2	22.18	16.00	10.75	175		
10	216-2211-000		2	25.18	16.00	10.75	200		
240 x 480 Volts – 24/48 Volts									
.050*	216-1400-000	None	55	1	8.25	3.63	3.5	60C	5.25
.100*	216-1401-000			1	8.25	3.63	3.5		6.13
.150*	216-1411-000			1	8.25	3.63	3.5		7.25
.250*	216-1421-000		115	1	9.38	4.38	4.06		11
.500*	216-1431-000			1	9.38	4.38	4.06		14
.750*	216-1441-000			1	11.5	5.13	4.75		19
1*	216-1451-000			1	11.5	5.13	4.75		26
1.5*	216-1461-000			1	13	5.88	5.31		30
2*	216-1471-000			1	13	5.88	5.31		41
3	216-1481-000			1	15.63	7.5	6.75		65
5	216-1491-000			1	15.63	7.5	6.75		78
7.5	216-2401-000		2	22.18	16.00	10.75	175		
10	216-2411-000		2	25.18	16.00	10.75	200		

NOTE: Housing dimensions subject to change without notice. Contact factory where dimensions are critical.

* 50/60 Hertz

Wiring Diagram 60A

PRIMARY: 120 X 240
SECONDARY: 12/24 TAPS: None



Primary

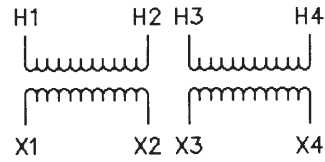
Volts	Inter-Connect	Connect Primary Lines To
240	H2 to H3	H1-H4
120	H1 to H3 H2 to H4	H1-H4

Secondary

Volts	Inter-Connect	Connect Secondary Lines To
24	X2 to X3	X1-X4
12	X1 to X3 X2 to X4	X1-X4

Wiring Diagram 60B

PRIMARY: 120 X 240
SECONDARY: 16/32 TAPS: None



Primary

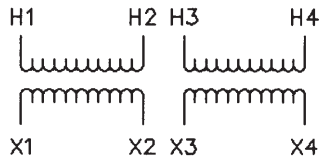
Volts	Inter-Connect	Connect Primary Lines To
240	H2 to H3	H1-H4
120	H1 to H3 H2 to H4	H1-H4

Secondary

Volts	Inter-Connect	Connect Secondary Lines To
32	X2 to X3	X1-X4
16	X1 to X3 X2 to X4	X1-X4

Wiring Diagram 60C

PRIMARY: 240 X 480
SECONDARY: 24/48 TAPS: None



Primary

Volts	Inter-Connect	Connect Primary Lines To
480	H2 to H3	H1-H4
240	H1 to H3 H2 to H4	H1-H4

Secondary

Volts	Inter-Connect	Connect Secondary Lines To
48	X2 to X3	X1-X4
24	X1 to X3 X2 to X4	X1-X4

Figure 1

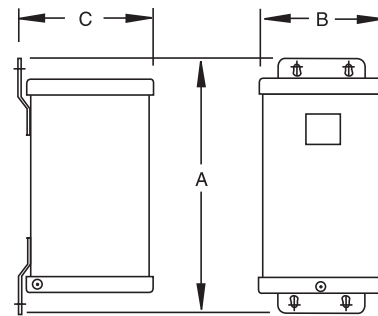
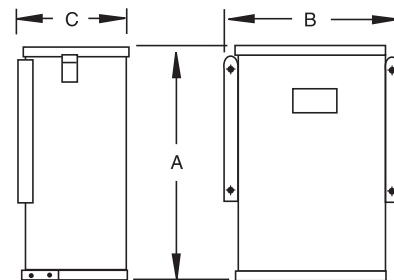


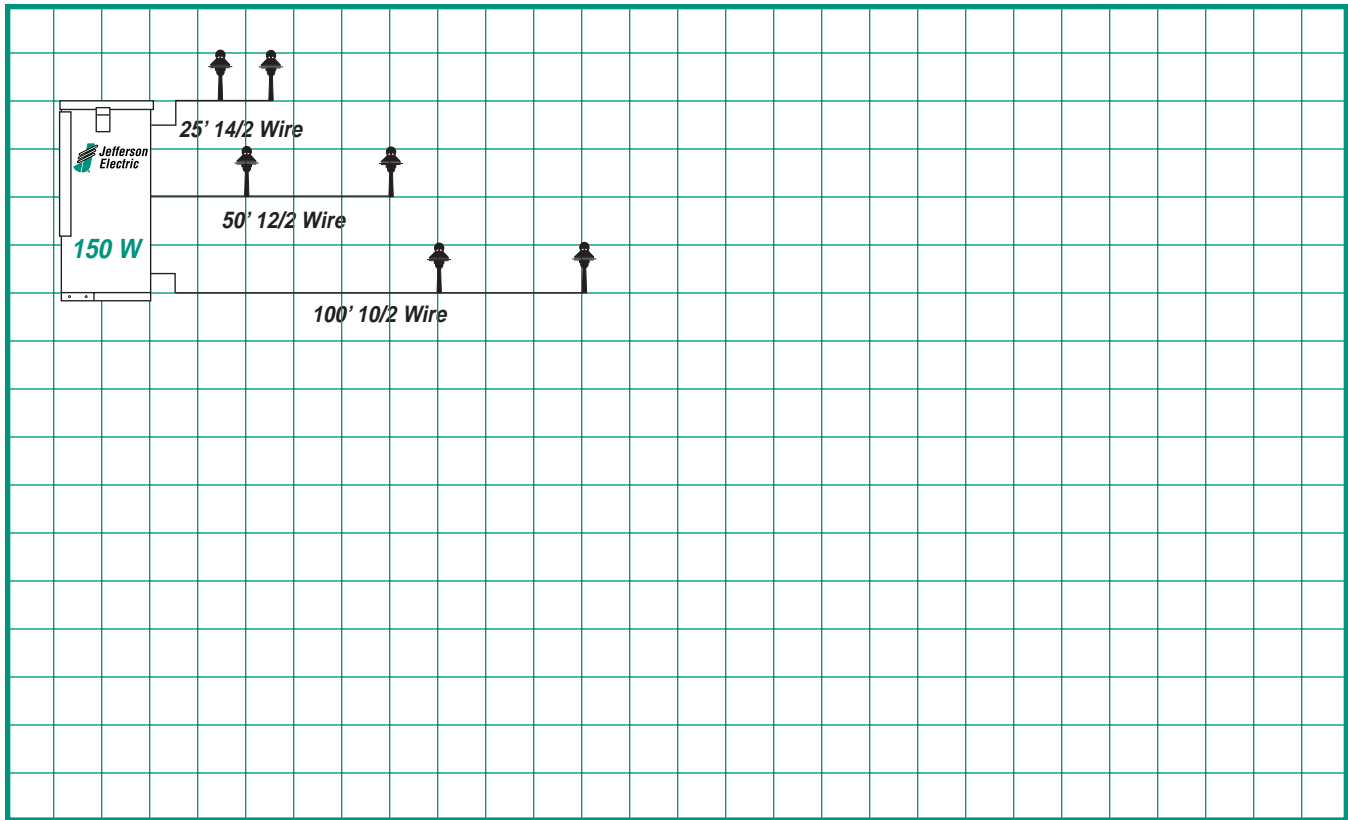
Figure 2



BUCK-BOOST

A typical low voltage installation showing three separate runs on a 150 W Power Supply

One square equals 10"



Voltage Drop Formula

$$\begin{array}{l}
 \text{Total Watts on Cable} \\
 \times \\
 \text{Length of Run} \\
 \hline
 \text{Cable Size Divider} \quad = \quad \text{Voltage Drop}
 \end{array}$$

LAMP CHARACTERISTICS VS. VOLTAGE		
Voltage at Lamp	Life Expectancy of Lamp	Rated Candlepower
+10%	2/3 Rated	350%
+5%	3/4 Rated	160%
12.0	As Rated	100%
-5%	2X Rated	80%
-10%	3X Rated	74%
-15%	5X Rated	65%
-20%	9X Rated	50%

CABLE CHART	
Cable Size	Cable Size Divider
#18	790
#16	1100
#14	1750
#12	3750
#10	5960
#8	9480
#6	10,075