

BUCK-BOOST TRANSFORMERS

Buck-Boost Transformers offer a no-frills approach to low voltage lighting. (See Chart Below) A typical Buck-Boost application is 120 volts in and 12 volts out for low voltage lighting or control circuitry. In most applications, this low voltage isolation transformer is field connected as an autotransformer. For more information on Buck-Boost Transformers, refer to the next section in this catalog.



120 X 240 VOLT INPUT — 12/24 VOLT OUTPUT — 1Ø, 60 Hz

Catalog Number	Insulating Transformer Rating	Secondary Maximum Current Output 12V 24V	Height (Inches)(Cm.)	Width (Inches)(Cm.)	Depth (Inches)(Cm.)	Weight (Lbs.)(Kg.)
T181047	0.05 kVA	4.16 2.08	6.38 (16.2)	3.19 (8.1)	3.00 (7.6)	4 (1.8)
T181048	0.10 kVA	8.32 4.16	6.62 (16.8)	3.75 (9.5)	3.62 (9.2)	5 (2.3)
T181049	0.15 kVA	12.52 6.25	7.12 (18.1)	3.75 (9.5)	3.62 (9.2)	7 (3.2)
T181050	0.25 kVA	20.80 10.40	8.68 (22.0)	4.08 (10.4)	3.88 (9.9)	10 (4.5)
T181051	0.50 kVA	41.60 20.80	9.06 (23.0)	4.37 (11.1)	4.20 (10.7)	15 (6.8)
T181052	0.75 kVA	62.50 31.25	9.68 (24.6)	4.75 (12.1)	4.51 (11.5)	19 (8.6)
T111683	1.00 kVA	83.20 41.60	10.50 (26.7)	5.50 (14.0)	5.13 (13.0)	24 (10.9)
T111684	1.50 kVA	125.00 62.50	11.62 (29.5)	5.50 (14.0)	5.13 (13.0)	30 (13.6)
T111685	2.00 kVA	166.00 83.20	13.00 (33.0)	5.50 (14.0)	5.13 (13.0)	38 (17.2)
T111686	3.00 kVA	250.00 125.00	11.50 (29.2)	10.31 (26.2)	7.13 (18.1)	55 (24.9)
T111687	5.00 kVA	416.00 208.00	14.38 (36.5)	10.31 (26.2)	7.13 (18.1)	75 (34.0)
T211688	7.50 kVA	625.00 312.50	21.19 (53.8)	13.50 (34.3)	10.84 (27.5)	125 (56.7)
T211689	10.00 kVA	833.00 416.60	21.19 (53.8)	13.50 (34.3)	10.84 (27.5)	160 (72.6)



277 VOLT INPUT — 12/24 VOLT OUTPUT — 1Ø, 60 Hz

Catalog Number	Insulating Transformer Rating	Secondary Maximum Current Output 12V 24V	Height (Inches)(Cm.)	Width (Inches)(Cm.)	Depth (Inches)(Cm.)	Weight (Lbs.)(Kg.)
T1100V0370BC	0.10 kVA	8.32 4.16	6.62 (16.8)	3.75 (9.5)	3.62 (9.2)	5 (2.3)
T1150V0370BC	0.15 kVA	12.52 6.25	7.12 (18.1)	3.75 (9.5)	3.62 (9.2)	7 (3.2)
T1250V0370BC	0.25 kVA	20.80 10.40	8.68 (22.0)	4.08 (10.4)	3.88 (9.9)	10 (4.5)
T1500V0370BC	0.50 kVA	41.60 20.80	9.06 (23.0)	4.37 (11.1)	4.20 (10.7)	15 (6.8)
T1001K0370BC	1.00 kVA	83.20 41.60	10.50 (26.7)	5.50 (14.0)	5.13 (13.0)	24 (10.9)
T1150K0370BC	1.50 kVA	125.00 62.50	11.62 (29.5)	5.50 (14.0)	5.13 (13.0)	30 (13.6)



Single Phase Application			Boosting										Bucking			
			Line Voltage (Available)										277 480 480 504			
			Load Voltage (Output)										230 436 456 480			
Catalog Number																
T181061	Load	kVA	0.29	0.44	0.48	0.49	0.49	0.95	0.96	0.50	0.98	1.01	0.29	0.50	1.05	1.10
		Amps	1.04	1.04	1.04	1.04	1.04	2.08	2.08	1.04	2.08	2.08	1.25	1.15	2.29	2.29
		Maximum Size of Fuse or Breaker	3	3	3	3	3	6	6	3	6	6	3	3	6	6
T181062	Load	kVA	0.58	0.87	0.95	0.97	0.99	1.90	1.93	1.01	1.97	2.01	0.58	1.00	2.09	2.20
		Amps	2.08	2.08	2.08	2.08	2.08	4.17	4.17	2.08	4.17	4.17	2.50	2.29	4.58	4.58
		Maximum Size of Fuse or Breaker	6	6	6	6	6	10	10	6	10	10	6	6	10	10
T181063	Load	kVA	0.87	1.31	1.43	1.46	1.48	2.86	2.89	1.51	2.95	3.02	0.86	1.50	3.14	3.30
		Amps	3.13	3.13	3.13	3.13	3.13	6.25	6.25	3.13	6.25	6.25	3.75	3.44	6.88	6.88
		Maximum Size of Fuse or Breaker	10	6	6	6	6	15	15	6	15	15	6	6	15	15
T181064	Load	kVA	1.44	2.19	2.38	2.43	2.46	4.76	4.81	2.52	4.92	5.03	1.44	2.50	5.23	5.50
		Amps	5.21	5.21	5.21	5.21	5.21	5.21	10.42	5.21	10.42	10.42	6.25	5.73	11.46	11.46
		Maximum Size of Fuse or Breaker	15	10	10	10	10	15	15	10	15	15	10	10	15	15
T181065	Load	kVA	2.89	4.38	4.76	4.86	4.93	9.52	9.62	5.04	9.83	10.06	2.88	5.00	10.45	11.00
		Amps	10.42	10.42	10.42	10.42	10.42	20.83	20.83	10.42	20.83	20.83	12.50	11.46	22.92	22.92
		Maximum Size of Fuse or Breaker	20	15	15	15	15	30	30	15	30	30	15	15	30	30
T181066	Load	kVA	4.33	6.56	7.14	7.30	7.39	14.28	14.44	7.56	14.75	15.09	4.31	7.49	15.68	16.50
		Amps	15.63	15.63	15.63	15.63	15.63	31.25	31.25	15.63	31.25	31.25	18.75	17.19	34.38	34.38
		Maximum Size of Fuse or Breaker	25	25	25	25	25	45	45	25	45	45	20	20	45	45
T137920	Load	kVA	5.77	8.57	9.52	9.73	9.85	19.04	19.25	10.08	19.67	20.13	5.75	9.99	20.90	22.00
		Amps	20.83	20.83	20.83	20.83	20.83	41.67	41.67	20.83	41.67	41.67	25.00	22.92	45.83	45.83
		Maximum Size of Fuse or Breaker	35	30	30	30	30	60	60	30	60	60	30	30	60	60
T137921	Load	kVA	8.66	13.13	14.28	14.59	14.78	28.56	28.88	15.13	29.50	30.19	8.63	14.99	31.35	33.00
		Amps	31.25	31.25	31.25	31.25	31.25	62.50	62.50	31.25	62.50	62.50	37.50	34.38	68.75	68.75
		Maximum Size of Fuse or Breaker	50	50	45	45	45	90	90	45	90	90	40	40	90	90
T137922	Load	kVA	11.54	17.50	19.04	19.46	19.71	38.08	38.50	20.17	39.33	40.25	11.50	19.98	41.80	44.00
		Amps	41.67	41.67	41.67	41.67	41.67	83.33	83.33	41.67	83.33	83.33	50.00	45.83	91.67	91.67
		Maximum Size of Fuse or Breaker	70	60	60	60	60	110	110	60	110	110	60	60	110	110
T137923	Load	kVA	17.31	26.25	28.56	29.19	29.56	57.13	57.75	30.25	59.00	60.38	17.25	29.98	62.70	66.00
		Amps	62.50	62.50	62.50	62.50	62.50	125.00	125.00	62.50	125.00	125.00	75.00	68.80	137.50	137.50
		Maximum Size of Fuse or Breaker	100	90	90	90	90	175	175	90	175	175	80	80	175	175
T137924	Load	kVA	28.90	43.80	47.60	48.60	49.30	95.20	96.20	50.40	98.30	100.60	28.80	50.00	104.50	110.00
		Amps	104.20	104.20	104.20	104.20	104.20	208.30	208.30	104.20	208.30	208.30	125.00	114.60	229.20	229.20
		Maximum Size of Fuse or Breaker	175	150	150	150	150	300	300	150	300	300	150	150	300	300
T243570 ①	Load	kVA	43.30	65.60	71.40	73.00	73.90	142.80	144.40	75.60	147.50	150.90	43.10	74.90	156.80	165.00
		Amps	156.30	156.30	156.30	156.30	156.30	312.50	312.50	156.30	312.50	312.50	187.50	171.90	343.80	343.80
		Maximum Size of Fuse or Breaker	250	225	225	225	225	450	450	225	450	450	200	200	450	450
T243571 ①	Load	kVA	57.70	87.50	95.20	97.30	98.50	190.40	192.50	100.80	196.70	201.30	57.50	99.90	209.00	220.00
		Amps	208.30	208.30	208.30	208.30	208.30	416.70	416.70	208.30	416.70	416.70	250.00	229.20	458.30	458.30
		Maximum Size of Fuse or Breaker	350	300	300	300	300	600	600	300	600	600	300	300	600	600

See Page 136 for Connection Diagrams

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① See chart on page 135.

NOTE: Inputs and Outputs may be reversed; kVA capacity remains constant. All applications above bold face line are suitable for 50/60 Hz. All applications below bold face line are suitable for 60 Hz only.

With larger kVA buck-boost units, it is necessary to utilize multiple conductors on the secondary (X) terminals as shown in the chart on page 135.



Three Phase Application

Line Voltage (Available)

Load Voltage (Output)

Boosting

Bucking

Catalog Number

Catalog Number			Boosting								Bucking							
			399Y 230	380	430	440	460	460	480	480	440	440	460	460	480	480	500	500
T181061	Load	kVA	0.86	0.76	0.85	1.66	0.91	1.74	0.95	1.82	0.79	1.58	1.66	0.83	1.73	0.86	0.90	1.80
		Amps	1.04	1.04	1.04	2.08	1.04	2.08	1.04	2.08	1.14	2.18	2.18	1.14	2.18	1.14	1.14	2.18
		Maximum Size of Fuse or Breaker	3	3	3	6	3	6	3	6	3	6	6	3	6	3	3	6
T181062	Load	kVA	1.73	1.51	1.70	3.33	1.82	3.48	1.90	3.63	1.59	3.17	3.31	1.66	3.46	1.73	1.80	3.61
		Amps	2.08	2.08	2.08	4.16	2.08	4.16	2.08	4.16	2.29	4.37	4.37	2.29	4.37	2.29	2.29	4.37
		Maximum Size of Fuse or Breaker	6	6	6	10	6	10	6	10	6	10	10	6	10	6	6	10
T181063	Load	kVA	2.60	2.27	2.56	4.99	2.73	5.22	2.85	5.45	2.38	4.75	4.97	2.48	5.19	2.59	2.70	5.41
		Amps	3.12	3.12	3.12	6.24	3.12	6.25	3.12	6.24	3.43	6.55	6.55	3.43	6.55	3.43	3.43	6.55
		Maximum Size of Fuse or Breaker	10	6	6	15	6	15	6	15	6	15	15	6	15	6	6	15
T181064	Load	kVA	4.33	3.78	4.26	8.32	4.56	8.70	4.76	9.08	3.96	7.92	8.28	4.14	8.64	4.32	4.51	9.02
		Amps	5.20	5.20	5.20	10.40	5.20	10.40	5.20	10.40	5.72	10.92	10.92	5.72	10.92	5.72	5.72	10.92
		Maximum Size of Fuse or Breaker	15	10	10	15	10	15	10	15	10	15	15	10	15	10	10	15
T181065	Load	kVA	8.60	7.56	8.52	16.64	9.11	17.40	9.51	18.16	7.93	15.85	16.57	8.28	17.29	8.64	9.02	18.04
		Amps	10.40	10.40	10.40	20.80	10.40	20.80	10.40	20.80	11.44	21.84	21.84	11.44	21.84	11.44	11.44	21.84
		Maximum Size of Fuse or Breaker	20	15	15	30	15	30	15	30	15	30	30	15	30	15	15	30
T181066	Load	kVA	12.90	11.34	12.77	24.97	13.67	26.10	14.27	27.24	11.89	23.77	24.85	12.42	25.93	12.96	13.52	27.07
		Amps	15.60	15.60	15.60	31.20	15.60	31.20	15.60	31.20	17.16	32.76	32.76	17.16	32.76	17.16	17.16	32.76
		Maximum Size of Fuse or Breaker	25	25	25	45	25	45	25	45	20	40	40	20	40	20	20	40
T137920	Load	kVA	17.30	15.12	17.03	33.29	18.23	34.80	19.02	36.31	15.85	31.70	33.14	16.57	34.57	17.28	18.03	36.09
		Amps	20.80	20.80	20.80	41.60	20.80	41.60	20.80	41.60	22.88	43.68	43.68	22.88	43.68	22.88	22.88	43.68
		Maximum Size of Fuse or Breaker	35	30	30	60	30	60	30	60	30	60	60	30	60	30	30	60
T137921	Load	kVA	25.90	22.69	25.55	49.93	27.34	52.20	28.53	54.47	23.78	47.55	49.71	24.85	51.86	25.92	27.05	54.13
		Amps	31.20	31.20	31.20	62.40	31.20	62.40	31.20	62.40	34.32	65.52	65.52	34.32	65.52	34.32	34.32	65.52
		Maximum Size of Fuse or Breaker	50	45	45	90	45	90	45	90	40	80	80	40	80	40	40	80
T137922	Load	kVA	34.60	30.25	34.07	66.58	36.46	69.60	38.04	72.63	31.70	63.40	66.27	33.13	69.15	34.56	36.06	72.18
		Amps	41.60	41.60	41.60	83.20	41.60	83.20	41.60	83.20	45.76	87.36	87.36	45.76	87.36	45.76	45.76	87.36
		Maximum Size of Fuse or Breaker	70	60	60	110	60	110	60	110	60	110	110	60	110	60	60	110
T137923	Load	kVA	52.00	45.45	51.18	100.03	54.69	104.57	57.07	109.12	47.63	95.25	99.57	49.77	103.89	51.92	54.18	108.44
		Amps	62.50	62.50	62.50	125.00	62.50	125.00	62.50	125.00	68.75	131.25	131.25	68.75	131.25	68.75	68.75	131.25
		Maximum Size of Fuse or Breaker	100	90	90	175	90	175	90	175	80	175	175	80	175	80	80	175
T137924	Load	kVA	86.10	75.62	85.17	166.44	91.15	174.01	95.11	181.57	79.26	158.50	165.69	82.83	172.87	86.39	90.16	180.44
		Amps	104.00	104.00	104.00	208.00	104.00	208.00	104.00	208.00	114.40	218.40	218.40	114.40	218.40	114.40	114.40	218.40
		Maximum Size of Fuse or Breaker	175	150	150	300	150	300	150	300	150	300	300	150	300	150	150	300
T243570	Load	kVA	129.30	113.43	127.75	249.66	136.72	261.01	142.67	272.36	118.89	237.75	248.53	124.24	259.31	129.59	135.23	270.66
		Amps	156.00	156.00	156.00	312.00	156.00	312.00	156.00	312.00	171.60	327.60	327.60	171.60	327.60	171.60	171.60	327.60
		Maximum Size of Fuse or Breaker	250	225	225	450	225	450	225	450	200	400	400	200	400	200	200	400
T243571 ①	Load	kVA	173.10	151.25	170.33	332.89	182.29	348.02	190.22	363.15	158.52	317.00	331.37	165.65	345.75	172.78	180.31	360.88
		Amps	208.00	208.00	208.00	416.00	208.00	416.00	208.00	416.00	228.80	436.80	436.80	228.80	436.80	228.80	228.80	436.80
		Maximum Size of Fuse or Breaker	350	300	300	600	300	600	300	600	300	600	600	300	600	300	300	600

Quantity Required

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See Page 136-137

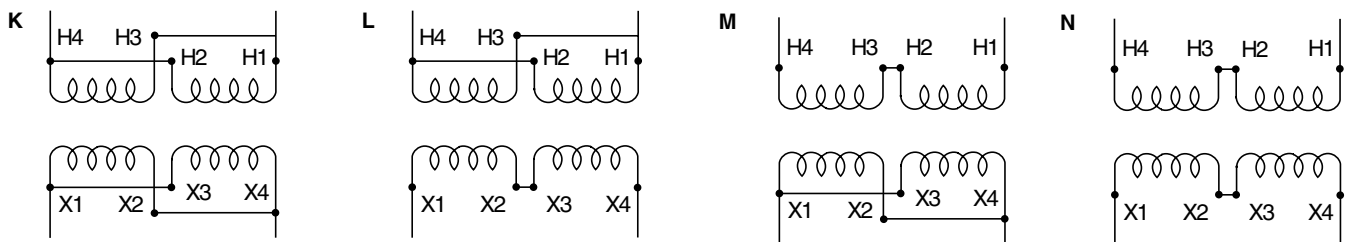
for Connection Diagrams

① See chart on page 135.

NOTE: (1) Inputs and Outputs may be reversed; kVA capacity remains constant. All applications above bold face line are suitable for 50/60 Hz. All applications below bold face line are suitable for 60 Hz only. (2) Connection Diagrams A-A and F-F cannot be reverse connected.


240 X 480 PRIMARY VOLTS — 24/48 SECONDARY VOLTS — 60 Hz

Catalog Number	Insulating Transformer Rating	Secondary Maximum Current Output		Height (Inches)(Cm.)	Width (Inches)(Cm.)	Depth (Inches)(Cm.)	Weight (Lbs.)(Kg.)	Dimensional Drawings
		24 V	48 V					
T181061	0.05 kVA	2.08	1.04	6.41 (16.3)	3.14 (8.0)	3.05 (7.7)	4 (1.8)	A
T181062	0.10 kVA	4.16	2.08	7.16 (18.2)	3.89 (9.9)	3.67 (9.3)	5 (2.3)	A
T181063	0.15 kVA	6.24	3.12	7.16 (18.2)	3.89 (9.9)	3.67 (9.3)	7 (3.2)	A
T181064	0.25 kVA	10.40	5.20	8.68 (22.0)	4.08 (10.4)	3.88 (9.9)	10 (4.5)	B
T181065	0.50 kVA	20.80	10.40	9.06 (23.0)	4.37 (11.1)	4.20 (10.7)	15 (6.8)	B
T181066	0.75 kVA	31.20	15.60	9.68 (24.6)	4.75 (12.1)	4.51 (11.5)	19 (8.6)	B
T137920	1.00 kVA	41.60	20.80	10.50 (26.7)	5.50 (14.0)	5.13 (13.0)	24 (10.9)	B
T137921	1.50 kVA	62.40	31.20	11.62 (29.5)	5.50 (14.0)	5.13 (13.0)	30 (13.6)	B
T137922	2.00 kVA	83.20	41.60	13.00 (33.0)	5.50 (14.0)	5.13 (13.0)	38 (17.2)	B
T137923	3.00 kVA	125.00	62.50	11.50 (29.2)	10.31 (26.2)	7.13 (18.1)	55 (24.9)	C
T137924	5.00 kVA	208.00	104.00	14.38 (36.5)	10.31 (26.2)	7.13 (18.1)	75 (34.0)	C
T243570	7.50 kVA	312.00	156.00	20.81 (52.9)	11.12 (28.2)	10.84 (27.5)	135 (61.2)	D
T243571	10.00 kVA	416.00	208.00	20.81 (52.9)	11.75 (29.8)	11.59 (29.4)	160 (72.6)	D

LOW VOLTAGE LIGHTING WIRING DIAGRAMS

Units Rated 120 x 240 V Input: 12/24 V Output

Input	Output	Connection Diagram
120	12	K
120	24	L
240	12	M
240	24	N

Units Rated 120 x 240 V Input: 16/32 V Output

Input	Output	Connection Diagram
120	16	K
120	32	L
240	16	M
240	32	N

Units Rated 240 x 480 V Input: 24/48 V Output

Input	Output	Connection Diagram
240	24	K
240	48	L
480	24	M
480	48	N

Number of Leads per Termination

	H1	H2	H3	H4	X1	X2	X3	X4
T213078	1	1	1	1	2	2	2	2
T213079	1	1	1	1	2	2	2	2
T243571	1	1	1	1	2	2	2	2
T211688	1	1	1	1	2	2	2	2
T211689	1	1	1	1	2	2	2	2

① All units have ground studs for use with non-metallic conduit. All sizes of 0.75 kVA and less are suitable for 50/60 Hertz. Additional field wiring box may be required when using units as autotransformers.

Dimensional Drawings page 136.