

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

Line Voltage (Available)

Load Voltage (Output)

Boosting

Bucking

Catalog Number

Catalog Number			Boosting								Bucking					
			95	100	105	208	215	215	220	225	135	240	240	245	250	255
			120	114	119	240	244	230	235	240	119	208	225	230	234	239
T181054	Load	kVA	0.19	0.36	0.37	0.38	0.38	0.72	0.73	0.75	0.42	0.37	0.75	0.77	0.78	0.80
		Amps	1.56	3.13	3.13	1.56	1.56	3.13	3.13	3.13	3.54	1.77	3.33	3.33	3.33	3.33
		Maximum Size of Fuse or Breaker	6	6	6	6	6	6	6	6	6	3	6	6	6	6
T181055	Load	kVA	0.38	0.71	0.74	0.75	0.76	1.44	1.47	1.50	0.84	0.74	1.50	1.53	1.56	1.59
		Amps	3.13	6.25	6.25	3.13	3.13	6.25	6.25	6.25	7.08	3.54	6.67	6.67	6.67	6.67
		Maximum Size of Fuse or Breaker	10	15	6	6	15	15	15	15	15	6	15	15	15	15
T181056	Load	kVA	0.56	1.07	1.12	1.13	1.14	2.16	2.20	2.25	1.26	1.11	2.25	2.30	2.34	2.39
		Amps	4.69	9.38	9.38	4.69	4.69	9.38	9.38	9.38	10.63	5.31	10.00	10.00	10.00	10.00
		Maximum Size of Fuse or Breaker	10	15	15	10	10	15	15	15	15	6	15	15	15	15
T181057	Load	kVA	0.94	1.78	1.86	1.88	1.91	3.59	3.67	3.75	2.11	1.84	3.75	3.83	3.90	3.98
		Amps	7.81	15.63	15.63	7.81	7.81	15.63	15.63	15.63	17.71	8.85	16.67	16.67	16.67	16.67
		Maximum Size of Fuse or Breaker	15	25	25	15	15	25	25	25	20	15	20	20	20	20
T181058	Load	kVA	1.88	3.56	3.72	3.75	3.81	7.19	7.34	7.50	4.21	3.68	7.50	7.67	7.80	7.97
		Amps	15.63	31.25	31.25	15.63	15.63	31.25	31.25	31.25	35.42	17.71	33.33	33.33	33.33	33.33
		Maximum Size of Fuse or Breaker	25	45	45	25	25	45	45	45	40	20	40	40	40	40
T181059	Load	kVA	2.81	5.34	5.58	5.63	5.72	10.78	11.02	11.25	6.32	5.53	11.25	11.50	11.70	11.95
		Amps	23.44	46.88	46.88	23.44	23.44	46.88	46.88	46.88	53.13	26.56	50.00	50.00	50.00	50.00
		Maximum Size of Fuse or Breaker	40	70	70	40	40	70	70	70	60	30	60	60	60	60
T113073	Load	kVA	3.75	7.13	7.44	7.50	7.63	14.38	14.69	15.00	8.43	7.37	15.00	15.33	15.60	15.93
		Amps	31.25	62.50	62.50	31.25	31.25	62.50	62.50	62.50	70.83	35.42	66.67	66.67	66.67	66.67
		Maximum Size of Fuse or Breaker	50	90	90	50	50	90	90	90	80	40	80	80	80	80
T113074	Load	kVA	5.63	10.69	11.16	11.25	11.44	21.56	22.03	22.50	12.64	11.05	22.50	23.00	23.40	23.90
		Amps	46.90	93.80	93.80	46.90	46.90	93.80	93.80	93.80	106.30	53.10	100.00	100.00	100.00	100.00
		Maximum Size of Fuse or Breaker	80	150	150	70	70	125	125	125	125	60	125	125	125	125
T113075	Load	kVA	7.50	14.25	14.88	15.00	15.25	28.75	29.38	30.00	16.86	14.73	30.00	30.67	31.20	31.87
		Amps	62.50	125.00	125.00	62.50	62.50	125.00	125.00	125.00	141.70	70.80	133.30	133.30	133.30	133.30
		Maximum Size of Fuse or Breaker	100	200	200	90	90	175	175	175	175	80	175	175	175	175
T113076	Load	kVA	11.25	21.38	22.31	22.50	22.88	43.13	44.06	45.00	25.29	22.10	45.00	46.00	46.80	47.80
		Amps	93.80	187.50	187.50	93.80	93.80	187.50	187.50	187.50	212.50	106.30	200.00	200.00	200.00	200.00
		Maximum Size of Fuse or Breaker	150	300	300	150	150	250	250	250	250	125	250	250	250	250
T113077	Load	kVA	18.75	35.63	37.19	37.50	38.13	71.88	73.44	75.00	42.15	36.83	75.00	76.67	78.00	79.67
		Amps	156.30	312.50	312.50	156.30	156.30	312.50	312.50	312.50	354.20	177.10	333.30	333.30	333.30	333.30
		Maximum Size of Fuse or Breaker	250	450	450	225	225	450	450	450	400	200	400	400	400	400
T213078 ①	Load	kVA	28.10	53.40	55.80	56.30	57.20	107.80	110.20	112.50	63.20	55.30	112.50	115.00	117.00	119.50
		Amps	234.40	468.80	468.80	234.40	234.40	468.80	468.80	468.80	531.30	265.60	500.00	500.00	500.00	500.00
		Maximum Size of Fuse or Breaker	400	700	700	350	350	700	700	700	600	300	600	600	600	600
T213079 ①	Load	kVA	37.50	71.30	74.40	75.00	76.30	143.80	146.90	150.00	84.30	73.70	150.00	153.30	156.00	159.30
		Amps	312.50	625.00	625.00	312.50	312.50	625.00	625.00	625.00	708.30	354.20	666.70	666.70	666.70	666.70
		Maximum Size of Fuse or Breaker	500	1000	1000	450	450	1000	1000	1000	800	400	800	800	800	800

See Page 136 for Connection Diagrams

D C C H H G G G F I E E E E

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			Boosting				
Line Voltage (Available)			183Y 106	208Y 120	195	208	225
Load Voltage (Output)			208	236	208	240	240
Catalog Number							
T181054	Load	kVA	1.13	1.28	1.13	0.63	1.30
		Amps	3.13	3.13	3.13	1.56	3.13
		Maximum Size of Fuse or Breaker	6	6	6	3	6
T181055	Load	kVA	2.25	2.55	2.25	1.27	2.60
		Amps	6.25	6.25	6.25	3.13	6.25
		Maximum Size of Fuse or Breaker	15	15	15	6	15
T181056	Load	kVA	3.38	3.83	3.38	1.90	3.90
		Amps	9.38	9.38	9.38	4.69	9.38
		Maximum Size of Fuse or Breaker	15	15	15	10	15
T181057	Load	kVA	5.63	6.39	5.63	3.17	6.50
		Amps	15.63	15.63	15.63	7.81	15.63
		Maximum Size of Fuse or Breaker	25	25	25	15	25
T181058	Load	kVA	11.26	12.77	11.26	6.33	12.99
		Amps	31.25	31.25	31.25	15.63	31.25
		Maximum Size of Fuse or Breaker	45	45	45	25	45
T181059	Load	kVA	16.89	19.16	16.89	9.50	19.49
		Amps	46.88	46.88	46.88	23.44	46.88
		Maximum Size of Fuse or Breaker	70	70	70	35	70
T113073	Load	kVA	22.52	25.55	22.52	12.67	25.98
		Amps	62.50	62.50	62.50	31.25	62.50
		Maximum Size of Fuse or Breaker	90	90	90	45	90
T113074	Load	kVA	33.77	38.32	33.77	19.00	38.97
		Amps	93.75	93.75	93.75	46.88	93.75
		Maximum Size of Fuse or Breaker	150	150	125	70	125
T113075	Load	kVA	45.03	51.10	45.03	25.33	51.96
		Amps	125.00	125.00	125.00	62.50	125.00
		Maximum Size of Fuse or Breaker	200	200	175	90	175
T113076	Load	kVA	67.55	76.64	67.55	38.00	77.94
		Amps	187.50	187.50	187.50	93.75	187.50
		Maximum Size of Fuse or Breaker	300	300	250	150	250
T113077	Load	kVA	112.58	127.74	112.58	63.33	129.90
		Amps	312.50	312.50	312.50	156.25	312.50
		Maximum Size of Fuse or Breaker	450	450	450	225	450
T213078 ①	Load	kVA	166.87	191.61	166.87	94.99	194.86
		Amps	468.75	468.75	468.75	234.38	468.75
		Maximum Size of Fuse or Breaker	700	700	700	350	700
T213079 ①	Load	kVA	225.17	255.48	225.17	126.66	259.81
		Amps	625.00	625.00	625.00	312.50	625.00
		Maximum Size of Fuse or Breaker	1000	1000	1000	450	1000
Quantity Required			3	3	2	2	2
See Page 136-137 for Connection Diagrams			A-A	A-A	G-G	B-B	G-G
① See chart on page 134.							

Bucking					
240	245	250	256	265	272
208	230	234	240	234	240
0.56	1.33	1.35	1.39	0.72	0.74
1.56	3.33	3.34	3.33	1.77	1.77
3	6	6	6	3	3
1.13	2.65	2.71	2.77	1.43	1.47
3.13	6.66	6.68	6.67	3.54	3.54
6	15	15	15	6	6
1.69	3.98	4.06	4.16	2.15	2.21
4.69	9.99	10.02	10.00	5.31	5.31
10	15	15	15	10	10
2.81	6.63	6.77	6.93	3.59	3.68
7.81	16.64	16.69	16.67	8.85	8.85
15	20	20	20	15	15
5.63	13.26	13.53	13.86	7.17	7.36
15.63	33.29	33.39	33.33	17.69	17.71
20	40	40	40	20	20
8.44	19.89	20.30	20.78	10.76	11.04
23.44	49.93	50.08	50.00	26.54	26.56
30	60	60	60	30	30
11.26	26.52	27.06	27.71	14.34	14.72
31.25	66.58	66.67	66.67	35.39	35.42
35	80	80	80	40	40
16.89	39.87	40.59	41.57	21.52	22.08
46.88	99.86	100.16	100.00	53.08	53.13
60	125	125	125	60	60
22.52	53.04	54.13	55.43	28.69	29.44
62.50	133.15	133.55	133.33	70.78	70.83
70	175	175	175	80	80
33.77	79.57	81.19	83.14	43.03	44.17
93.75	199.73	200.32	200.00	106.17	106.25
110	250	250	250	125	125
56.29	132.61	135.32	138.56	71.72	73.50
156.25	332.88	333.87	333.33	176.95	176.80
175	400	400	400	200	200
84.44	198.92	202.97	207.85	107.58	110.42
234.38	499.32	500.80	500.00	265.42	265.63
300	600	600	600	300	300
112.58	265.22	270.63	277.13	143.44	147.22
312.50	665.76	667.74	666.67	353.90	354.17
350	800	800	800	400	400
2	2	2	2	2	2
D-D	C-C	C-C	C-C	E-E	E-E



SPECIFICATIONS ① - SINGLE PHASE

120 X 240 PRIMARY VOLTS — 12/24 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
		12 V	24 V					
T181047	0.05 kVA	4.16	2.08	6.41 (16.3)	3.14 (8.0)	3.05 (7.7)	4 (1.8)	A
T181048	0.10 kVA	8.32	4.16	7.16 (18.2)	3.89 (9.9)	3.67 (9.3)	5 (2.3)	A
T181049	0.15 kVA	12.52	6.25	7.16 (18.2)	3.89 (9.9)	3.67 (9.3)	7 (3.2)	A
T181050	0.25 kVA	20.80	10.40	8.68 (22.0)	4.08 (10.4)	3.88 (9.9)	10 (4.5)	B
T181051	0.50 kVA	41.60	20.80	9.06 (23.0)	4.37 (11.1)	4.20 (10.7)	15 (6.8)	B
T181052	0.75 kVA	62.50	31.25	9.68 (24.6)	4.75 (12.1)	4.51 (11.5)	19 (8.6)	B
T111683	1.00 kVA	83.20	41.60	10.50 (26.7)	5.50 (14.0)	5.13 (13.0)	24 (10.9)	B
T111684	1.50 kVA	125.00	62.50	11.62 (29.5)	5.50 (14.0)	5.13 (13.0)	30 (13.6)	B
T111685	2.00 kVA	166.00	83.20	13.00 (33.0)	5.50 (14.0)	5.13 (13.0)	38 (17.2)	B
T111686	3.00 kVA	250.00	125.00	11.50 (29.2)	10.31 (26.2)	7.13 (18.1)	55 (24.9)	C
T111687	5.00 kVA	416.60	208.00	14.38 (36.5)	10.31 (26.2)	7.13 (18.1)	75 (34.0)	C
T211688	7.50 kVA	625.00	312.50	20.81 (52.9)	11.12 (28.2)	10.84 (27.5)	125 (56.7)	D
T211689	10.00 kVA	833.00	416.60	20.81 (52.9)	11.75 (29.8)	11.59 (29.4)	160 (72.6)	D

120 X 240 PRIMARY VOLTS — 16/32 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
		16 V	32 V					
T181054	0.05 kVA	3.12	1.56	6.41 (16.3)	3.14 (8.0)	3.05 (7.7)	4 (1.8)	A
T181055	0.10 kVA	6.25	3.12	7.16 (18.2)	3.89 (9.9)	3.67 (9.3)	5 (2.3)	A
T181056	0.15 kVA	9.38	4.69	7.16 (18.2)	3.89 (9.9)	3.67 (9.3)	7 (3.2)	A
T181057	0.25 kVA	15.60	7.80	8.68 (22.0)	4.08 (10.4)	3.88 (9.9)	10 (4.5)	B
T181058	0.50 kVA	31.20	15.60	9.06 (23.0)	4.37 (11.1)	4.20 (10.7)	15 (6.8)	B
T181059	0.75 kVA	46.90	23.40	9.68 (24.6)	4.75 (12.1)	4.51 (11.5)	19 (8.6)	B
T113073	1.00 kVA	62.50	31.20	10.50 (26.7)	5.50 (14.0)	5.13 (13.0)	24 (10.9)	B
T113074	1.50 kVA	93.70	46.90	11.62 (29.5)	5.50 (14.0)	5.13 (13.0)	30 (13.6)	B
T113075	2.00 kVA	125.00	62.50	13.00 (33.0)	5.50 (14.0)	5.13 (13.0)	38 (17.2)	B
T113076	3.00 kVA	187.50	93.80	11.50 (29.2)	10.31 (26.2)	7.13 (18.1)	55 (24.9)	C
T113077	5.00 kVA	312.00	156.00	14.38 (36.5)	10.31 (26.2)	7.13 (18.1)	75 (34.0)	C
T213078	7.50 kVA	468.00	234.00	20.81 (52.9)	11.12 (28.2)	10.84 (27.5)	125 (56.7)	D
T213079	10.00 kVA	625.00	312.00	20.81 (52.9)	11.75 (29.8)	10.84 (27.5)	160 (72.6)	D

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.