

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)													
			95	100	105	110	189	208	215	220	125	132	230	245	250	252
Load Voltage (Output)			114	120	115	120	208	230	237	242	113	120	208	222	227	240
Catalog Number																
T181047	Load	kVA	0.24	0.25	0.48	0.50	0.43	0.48	0.49	0.50	0.52	0.54	0.47	0.50	0.52	1.02
		Amps	2.08	2.08	4.17	4.17	2.08	2.08	2.08	2.08	4.60	4.60	2.28	2.28	2.28	4.37
		Maximum Size of Fuse or Breaker	6	6	10	10	6	6	6	6	6	6	10	10	6	6
T181048	Load	kVA	0.47	0.50	0.96	1.01	0.87	0.96	0.99	1.01	1.04	1.08	0.95	1.00	1.04	2.04
		Amps	4.17	4.17	8.33	8.33	4.17	4.17	4.17	4.17	9.20	9.20	4.56	4.56	4.58	8.75
		Maximum Size of Fuse or Breaker	10	10	15	15	10	10	10	10	15	15	10	10	10	15
T181049	Load	kVA	0.71	0.75	1.43	1.51	1.30	1.43	1.48	1.51	1.56	1.62	1.42	1.50	1.56	3.00
		Amps	6.25	6.25	12.50	12.50	6.25	6.25	6.25	6.25	13.80	13.80	6.86	6.86	6.86	13.10
		Maximum Size of Fuse or Breaker	15	15	20	20	15	15	15	15	20	20	15	15	15	15
T181050	Load	kVA	1.19	1.25	2.40	2.50	2.16	2.39	2.46	2.52	2.60	2.75	2.37	2.50	2.60	5.10
		Amps	10.42	10.40	20.80	20.80	10.40	10.40	10.40	10.40	22.80	22.80	11.40	11.40	11.40	21.80
		Maximum Size of Fuse or Breaker	25	25	40	30	15	15	15	15	30	30	15	15	15	30
T181051	Load	kVA	2.37	2.50	4.80	5.00	4.33	4.79	4.93	5.04	5.20	5.40	4.47	5.00	5.20	10.20
		Amps	20.83	20.83	41.67	41.67	20.83	20.83	20.83	20.83	46.80	46.80	22.80	22.80	22.80	43.70
		Maximum Size of Fuse or Breaker	35	35	60	60	30	30	30	30	60	60	30	30	30	60
T181052	Load	kVA	3.56	3.75	7.17	7.56	6.50	7.19	7.41	7.56	7.80	8.15	7.10	7.50	7.80	15.30
		Amps	31.25	31.25	62.50	62.50	31.25	31.25	31.25	31.25	68.50	69.50	34.40	34.40	34.40	65.50
		Maximum Size of Fuse or Breaker	50	50	90	90	45	45	45	45	80	80	40	40	40	80
T111683	Load	kVA	4.75	5.00	9.58	10.00	8.66	9.58	9.87	10.00	10.40	10.80	9.50	10.00	10.00	20.40
		Amps	41.67	41.67	83.31	83.31	41.67	41.67	41.67	41.67	91.50	91.50	45.80	45.80	45.80	87.50
		Maximum Size of Fuse or Breaker	70	70	125	125	60	60	60	60	110	110	60	60	50	110
T111684	Load	kVA	7.12	7.50	14.40	15.10	13.00	14.30	14.80	15.10	15.00	16.20	14.24	15.00	15.60	30.60
		Amps	62.50	62.50	125.00	125.00	62.50	62.50	62.50	62.50	138.00	138.00	68.60	68.60	68.60	132.00
		Maximum Size of Fuse or Breaker	100	100	175	175	90	90	90	90	150	175	80	80	80	175
T111685	Load	kVA	9.50	10.00	19.20	20.20	17.30	19.16	19.70	20.10	20.80	21.60	19.00	20.00	20.30	40.80
		Amps	83.30	83.30	166.60	166.60	83.30	83.30	83.30	83.30	183.00	183.00	91.60	91.60	91.20	175.00
		Maximum Size of Fuse or Breaker	125	125	250	250	125	125	125	125	225	225	110	110	110	225
T111686	Load	kVA	14.20	15.00	28.80	30.00	26.00	28.70	29.60	30.30	31.20	32.50	28.50	30.00	31.20	61.00
		Amps	125.00	125.00	250.00	250.00	125.00	125.00	125.00	125.00	275.00	275.00	136.80	136.80	136.80	263.00
		Maximum Size of Fuse or Breaker	200	200	350	350	175	175	175	175	350	350	175	175	175	350
T111687	Load	kVA	23.70	25.00	47.90	50.00	43.30	47.80	49.30	50.30	52.00	54.00	47.40	50.00	52.00	102.00
		Amps	208.00	208.00	416.60	416.60	208.00	208.00	208.00	208.00	457.00	457.00	228.00	228.00	228.00	437.00
		Maximum Size of Fuse or Breaker	350	350	600	600	300	300	300	300	600	600	300	300	300	600
T111688 ①	Load	kVA	35.60	37.50	71.90	75.60	65.00	71.80	74.00	75.60	78.00	81.00	71.00	76.00	78.00	153.00
		Amps	312.50	312.50	625.00	625.00	312.50	312.50	312.50	312.50	688.00	688.00	344.00	344.00	344.00	655.00
		Maximum Size of Fuse or Breaker	500	500	1000	1000	450	450	450	450	800	800	400	400	400	800
T111689 ①	Load	kVA	47.50	50.00	95.80	100.00	86.60	95.80	98.70	101.00	104.00	108.00	95.00	100.00	104.00	204.00
		Amps	416.60	416.60	833.30	833.30	416.60	416.60	416.60	416.60	915.00	915.00	458.00	458.00	458.00	875.00
		Maximum Size of Fuse or Breaker	700	700	1200	1200	600	600	600	600	1200	1200	600	600	600	1200

See Page 136 for Connection Diagrams

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

① See chart on page 135, for number of leads per termination.

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

189Y 109	196Y 113	201Y 116	208Y 120	189	208	220
208	234	240	230	208	230	242

Bucking

219	230	250	255	264
208	208	227	232	240

Catalog Number

T181047	Load	kVA	1.50	0.84	0.87	1.66	0.75	0.83	0.87
		Amps	4.17	2.08	2.08	4.17	2.08	2.08	2.08
		Maximum Size of Fuse or Breaker	10	6	6	10	6	6	6
T181048	Load	kVA	3.00	1.69	1.73	3.32	1.50	1.66	1.75
		Amps	8.33	4.17	4.17	8.33	4.17	4.17	4.17
		Maximum Size of Fuse or Breaker	15	10	10	15	10	10	10
T181049	Load	kVA	4.50	2.53	2.60	4.98	2.25	2.49	2.62
		Amps	12.50	6.25	6.25	12.50	6.25	6.25	6.25
		Maximum Size of Fuse or Breaker	20	15	15	20	15	15	15
T181050	Load	kVA	7.51	4.22	4.33	8.30	3.75	4.15	4.37
		Amps	20.83	10.42	10.42	20.83	10.42	10.42	10.42
		Maximum Size of Fuse or Breaker	30	20	20	30	15	15	15
T181051	Load	kVA	15.01	8.44	8.66	16.60	7.51	8.30	8.73
		Amps	41.67	20.83	20.83	41.67	20.83	20.83	20.83
		Maximum Size of Fuse or Breaker	60	35	35	60	30	30	30
T181052	Load	kVA	22.52	12.67	12.99	24.90	11.26	12.45	13.10
		Amps	62.50	31.25	31.25	62.50	31.25	31.25	31.25
		Maximum Size of Fuse or Breaker	90	50	50	90	45	45	45
T111683	Load	kVA	30.02	16.89	17.32	33.20	15.01	16.60	17.46
		Amps	83.33	41.67	41.67	83.33	41.67	41.67	41.67
		Maximum Size of Fuse or Breaker	125	70	70	125	60	60	60
T111684	Load	kVA	45.03	25.33	25.98	49.80	22.52	24.90	26.20
		Amps	125.00	62.50	62.50	125.00	62.50	62.50	62.50
		Maximum Size of Fuse or Breaker	175	100	100	175	90	90	90
T111685	Load	kVA	60.04	33.77	34.64	66.40	30.02	33.20	34.93
		Amps	166.67	83.33	83.33	167.67	83.33	83.33	83.33
		Maximum Size of Fuse or Breaker	250	125	125	250	125	125	125
T111686	Load	kVA	90.07	50.66	51.96	99.59	45.03	49.80	52.39
		Amps	250.00	125.00	125.00	250.00	125.00	125.00	125.00
		Maximum Size of Fuse or Breaker	350	200	200	350	175	175	175
T111687	Load	kVA	150.11	84.44	86.60	165.99	75.06	82.99	87.32
		Amps	416.67	208.33	208.33	416.67	208.33	208.33	208.33
		Maximum Size of Fuse or Breaker	600	350	350	600	300	300	300
T211688 ①	Load	kVA	225.17	126.66	129.90	248.98	112.58	124.49	130.99
		Amps	625.00	312.50	312.50	625.00	312.50	312.50	312.50
		Maximum Size of Fuse or Breaker	1000	500	500	1000	450	450	450
T211689 ①	Load	kVA	300.22	168.87	173.21	331.98	150.11	165.99	174.65
		Amps	833.33	416.67	416.67	833.33	416.67	416.67	416.67
		Maximum Size of Fuse or Breaker	1200	700	700	1200	600	600	600

1.58	0.83	0.90	0.92	0.95
4.39	2.30	2.29	2.29	2.29
10	6	6	6	6
3.16	1.66	1.80	1.84	1.91
8.77	4.61	4.59	4.58	4.58
15	10	10	10	10
4.74	2.49	2.71	2.76	2.86
13.16	6.91	6.88	6.87	6.88
20	15	15	15	15
7.90	4.15	4.51	4.60	4.76
21.94	11.52	11.47	11.45	11.46
30	15	15	15	15
15.80	8.30	9.02	9.20	9.53
43.87	23.04	22.94	22.90	22.92
60	30	30	30	30
23.71	12.45	13.53	13.80	14.29
65.81	34.56	34.42	34.35	34.38
80	40	40	40	40
31.61	16.60	18.04	18.40	19.05
87.74	46.07	45.89	45.80	45.83
110	60	60	60	60
47.41	24.90	27.06	27.60	28.58
131.61	69.11	68.83	68.70	68.75
175	80	80	80	80
63.22	33.20	36.08	36.81	38.11
175.48	92.15	91.78	91.59	91.67
225	110	110	110	110
94.83	49.80	54.13	55.21	57.16
263.22	138.22	137.67	137.39	137.50
350	175	175	175	175
158.05	82.99	90.21	92.02	95.26
438.70	230.37	229.44	228.99	229.17
600	300	300	300	300
237.07	124.49	135.32	138.02	142.89
658.05	345.55	344.16	343.48	343.75
800	400	400	400	400
316.10	165.99	180.42	184.03	190.53
877.40	460.74	458.88	457.97	458.33
1200	600	600	600	600

Quantity Required

3 3 3 3 2 2 2

See Page 136-137 for Connection Diagrams

A-A F-F F-F A-A B-B B-B B-B

2 2 2 2 2

C-C E-E E-E E-E E-E

① See chart on page 133.



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.