

SELECTION CHARTS

SINGLE PHASE

GROUP I



SINGLE PHASE		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
CAT. NO.															
T181047	Load kVA Amps	0.24 2.08	0.25 2.08	0.48 4.17	0.50 4.17	0.43 2.08	0.48 2.08	0.49 2.08	0.50 2.08	0.52 4.60	0.54 4.60	0.47 2.28	0.50 2.28	0.52 2.28	1.02 4.37
	Max. Size of Fuse or Breaker	6	6	10	10	6	6	6	6	10	10	6	6	6	10
T181048	Load kVA Amps	0.47 4.17	0.50 4.17	0.96 8.33	1.01 8.33	0.87 4.17	0.96 4.17	0.99 4.17	1.01 4.17	1.04 9.20	1.08 9.20	0.95 4.56	1.00 4.56	1.04 4.58	2.04 8.75
	Max. Size of Fuse or Breaker	10	10	15	15	10	10	10	10	15	15	10	10	10	15
T181049	Load kVA Amps	0.71 6.25	0.75 6.25	1.43 12.50	1.51 12.50	1.30 6.25	1.43 6.25	1.48 6.25	1.51 6.25	1.56 13.80	1.62 13.80	1.42 6.86	1.50 6.86	1.56 6.86	3.00 13.10
	Max. Size of Fuse or Breaker	15	15	20	20	15	15	15	15	20	20	15	15	15	15
T181050	Load kVA Amps	1.19 10.42	1.25 10.40	2.40 20.80	2.50 20.80	2.16 10.40	2.39 10.40	2.46 10.40	2.52 10.40	2.60 22.80	2.75 22.80	2.37 11.40	2.50 11.40	2.60 11.40	5.10 21.80
	Max. Size of Fuse or Breaker	25	25	40	30	15	15	15	15	30	30	15	15	15	30
T181051	Load kVA Amps	2.37 20.83	2.50 20.83	4.80 41.67	5.00 41.67	4.33 20.83	4.79 20.83	4.93 20.83	5.04 20.83	5.20 46.80	5.40 46.80	4.47 22.80	5.00 22.80	5.20 22.80	10.20 43.70
	Max. Size of Fuse or Breaker	35	35	60	60	30	30	30	30	60	60	30	30	30	60
T181052	Load kVA Amps	3.56 31.25	3.75 31.25	7.17 62.50	7.56 62.50	6.50 31.25	7.19 31.25	7.41 31.25	7.56 31.25	7.80 68.50	8.15 69.50	7.10 34.40	7.50 34.40	7.80 34.40	15.30 65.50
	Max. Size of Fuse or Breaker	50	50	90	90	45	45	45	45	80	80	40	40	40	80
T111683	Load kVA Amps	4.75 41.67	5.00 41.67	9.58 83.31	10.00 83.31	8.66 41.67	9.58 41.67	9.87 41.67	10.00 41.67	10.40 91.50	10.80 91.50	9.50 45.80	10.00 45.80	10.00 45.80	20.40 87.50
	Max. Size of Fuse or Breaker	70	70	125	125	60	60	60	60	110	110	60	60	50	110
T111684	Load kVA Amps	7.12 62.50	7.50 62.50	14.40 125.00	15.10 125.00	13.00 62.50	14.30 62.50	14.80 62.50	15.10 62.50	15.00 138.00	16.20 138.00	14.24 68.60	15.00 68.60	15.60 68.60	30.60 132.00
	Max. Size of Fuse or Breaker	100	100	175	175	90	90	90	90	150	175	80	80	80	175
T111685	Load kVA Amps	9.50 83.30	10.00 83.30	19.20 166.60	20.20 166.60	17.30 83.30	19.16 83.30	19.70 83.30	20.10 83.30	20.80 183.00	21.60 183.00	19.00 91.60	20.00 91.60	20.30 91.20	40.80 175.00
	Max. Size of Fuse or Breaker	125	125	250	250	125	125	125	125	225	225	110	110	110	225
T111686	Load kVA Amps	14.20 125.00	15.00 125.00	28.80 250.00	30.00 250.00	26.00 125.00	28.70 125.00	29.60 125.00	30.30 125.00	31.20 275.00	32.50 275.00	28.50 136.80	30.00 136.80	31.20 136.80	61.00 263.00
	Max. Size of Fuse or Breaker	200	200	350	350	175	175	175	175	350	350	175	175	175	350
T111687	Load kVA Amps	23.70 208.00	25.00 208.00	47.90 416.60	50.00 416.60	43.30 208.00	47.80 208.00	49.30 208.00	50.30 208.00	52.00 457.00	54.00 457.00	47.40 228.00	50.00 228.00	52.00 228.00	102.00 437.00
	Max. Size of Fuse or Breaker	350	350	600	600	300	300	300	300	600	600	300	300	300	600
T211688 ①	Load kVA Amps	35.60 312.50	37.50 312.50	71.90 625.00	75.60 625.00	65.00 312.50	71.80 312.50	74.00 312.50	75.60 312.50	78.00 688.00	81.00 688.00	71.00 344.00	76.00 344.00	78.00 344.00	153.00 655.00
	Max. Size of Fuse or Breaker	500	500	1000	1000	450	450	450	450	800	800	400	400	400	800
T211689 ①	Load kVA Amps	47.50 416.60	50.00 416.60	95.80 833.30	100.00 833.30	86.60 416.60	95.80 416.60	98.70 416.60	101.00 416.60	104.00 915.00	108.00 915.00	95.00 458.00	100.00 458.00	104.00 458.00	204.00 875.00
	Max. Size of Fuse or Breaker	700	700	1200	1200	600	600	600	600	1200	1200	600	600	600	1200

See Page 110 For Connection Diagrams D D C C H H H H F F I I I E

① See chart on page 101, 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 101.

SELECTION CHARTS

THREE PHASE

GROUP I



THREE PHASE		BOOSTING						
Line Voltage (Available)		189Y 109	196Y 113	201Y 116	208Y 120	189	208	220
Load Voltage (Output)		208	234	240	230	208	230	242
CAT. NO.								
T181047	Load kVA Amps	1.50 4.17	0.84 2.08	0.87 2.08	1.66 4.17	0.75 2.08	0.83 2.08	0.87 2.08
	Max. Size of Fuse or Breaker	10	6	6	10	6	6	6
T181048	Load kVA Amps	3.00 8.33	1.69 4.17	1.73 4.17	3.32 8.33	1.50 4.17	1.66 4.17	1.75 4.17
	Max. Size of Fuse or Breaker	15	10	10	15	10	10	10
T181049	Load kVA Amps	4.50 12.50	2.53 6.25	2.60 6.25	4.98 12.50	2.25 6.25	2.49 6.25	2.62 6.25
	Max. Size of Fuse or Breaker	20	15	15	20	15	15	15
T181050	Load kVA Amps	7.51 20.83	4.22 10.42	4.33 10.42	8.30 20.83	3.75 10.42	4.15 10.42	4.37 10.42
	Max. Size of Fuse or Breaker	30	20	20	30	15	15	15
T181051	Load kVA Amps	15.01 41.67	8.44 20.83	8.66 20.83	16.60 41.67	7.51 20.83	8.30 20.83	8.73 20.83
	Max. Size of Fuse or Breaker	60	35	35	60	30	30	30
T181052	Load kVA Amps	22.52 62.50	12.67 31.25	12.99 31.25	24.90 62.50	11.26 31.25	12.45 31.25	13.10 31.25
	Max. Size of Fuse or Breaker	90	50	50	90	45	45	45
T111683	Load kVA Amps	30.02 83.33	16.89 41.67	17.32 41.67	33.20 83.33	15.01 41.67	16.60 41.67	17.46 41.67
	Max. Size of Fuse or Breaker	125	70	70	125	60	60	60
T111684	Load kVA Amps	45.03 125.00	25.33 62.50	25.98 62.50	49.80 125.00	22.52 62.50	24.90 62.50	26.20 62.50
	Max. Size of Fuse or Breaker	175	100	100	175	90	90	90
T111685	Load kVA Amps	60.04 166.67	33.77 83.33	34.64 83.33	66.40 167.67	30.02 83.33	33.20 83.33	34.93 83.33
	Max. Size of Fuse or Breaker	250	125	125	250	125	125	125
T111686	Load kVA Amps	90.07 250.00	50.66 125.00	51.96 125.00	99.59 250.00	45.03 125.00	49.80 125.00	52.39 125.00
	Max. Size of Fuse or Breaker	350	200	200	350	175	175	175
T111687	Load kVA Amps	150.11 416.67	84.44 208.33	86.60 208.33	165.99 416.67	75.06 208.33	82.99 208.33	87.32 208.33
	Max. Size of Fuse or Breaker	600	350	350	600	300	300	300
T211688 ^①	Load kVA Amps	225.17 625.00	126.66 312.50	129.90 312.50	248.98 625.00	112.58 312.50	124.49 312.50	130.99 312.50
	Max. Size of Fuse or Breaker	1000	500	500	1000	450	450	450
T211689 ^①	Load kVA Amps	300.22 833.33	168.87 416.67	173.21 416.67	331.98 833.33	150.11 416.67	165.99 416.67	174.65 416.67
	Max. Size of Fuse or Breaker	1200	700	700	1200	600	600	600
Quantity Required		3	3	3	3	2	2	2
See Page 102 For Connection Diagrams		A-A	F-F	F-F	A-A	B-B	B-B	B-B

BUCKING				
219	230	250	255	264
208	208	227	232	240
1.58 4.39	0.83 2.30	0.90 2.29	0.92 2.29	0.95 2.29
10	6	6	6	6
3.16 8.77	1.66 4.61	1.80 4.59	1.84 4.58	1.91 4.58
15	10	10	10	10
4.74 13.16	2.49 6.91	2.71 6.88	2.76 6.87	2.86 6.88
20	15	15	15	15
7.90 21.94	4.15 11.52	4.51 11.47	4.60 11.45	4.76 11.46
30	15	15	15	15
15.80 43.87	8.30 23.04	9.02 22.94	9.20 22.90	9.53 22.92
60	30	30	30	30
23.71 65.81	12.45 34.56	13.53 34.42	13.80 34.35	14.29 34.38
80	40	40	40	40
31.61 87.74	16.60 46.07	18.04 45.89	18.40 45.80	19.05 45.83
110	60	60	60	60
47.41 131.61	24.90 69.11	27.06 68.83	27.60 68.70	28.58 68.75
175	80	80	80	80
63.22 175.48	33.20 92.15	36.08 91.78	36.81 91.59	38.11 91.67
225	110	110	110	110
94.83 263.22	49.80 138.22	54.13 137.67	55.21 137.39	57.16 137.50
350	175	175	175	175
158.05 438.70	82.99 230.37	90.21 229.44	92.02 228.99	95.26 229.17
600	300	300	300	300
237.07 658.05	124.49 345.55	135.32 344.16	138.02 343.48	142.89 343.75
800	400	400	400	400
316.10 877.40	165.99 460.74	180.42 458.88	184.03 457.97	190.53 458.33
1200	600	600	600	600
2	2	2	2	2
C-C	E-E	E-E	E-E	E-E

① See chart on page 101.

SPECIFICATIONS ①

GROUP I



120 X 240 PRIMARY VOLTS — 12/24 SECONDARY VOLTS — 60 Hz

CATALOG NUMBER	INSULATING TRANSFORMER RATING	SECONDARY MAXIMUM CURRENT OUTPUT		HEIGHT	APPROX. DIMENSIONS INCHES (CM.)			APPROX. NET WEIGHT LBS. (KG.)	DIMENSIONAL DRAWINGS
		12 V	24 V		WIDTH	DEPTH			
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	

GROUP II

120 X 240 PRIMARY VOLTS — 16/32 SECONDARY VOLTS — 60 Hz

CATALOG NUMBER	INSULATING TRANSFORMER RATING	SECONDARY MAXIMUM CURRENT OUTPUT		HEIGHT	APPROX. DIMENSIONS INCHES (CM.)			APPROX. NET WEIGHT LBS. (KG.)	DIMENSIONAL DRAWINGS
		16 V	32 V		WIDTH	DEPTH			
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	

GROUP III

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

CATALOG NUMBER	INSULATING TRANSFORMER RATING	SECONDARY MAXIMUM CURRENT OUTPUT		HEIGHT	APPROX. DIMENSIONS INCHES (CM.)			APPROX. NET WEIGHT LBS. (KG.)	DIMENSIONAL DRAWINGS
		24 V	48 V		WIDTH	DEPTH			
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	

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.

Transformer Industry Standards

Underwriters' Laboratories, Inc. is an independent not for profit organization which tests products for safety.

Acme's transformers are designed and manufactured to comply with UL Standard 506, 1561, 1012, or 1062 and carry the applicable UL Listing Label. Because of the continuous product evolutions at Acme, it is best that you contact the factory for the current file and guide numbers associated with the listings.

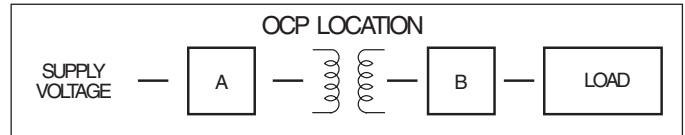
The Canadian Standards Association is the Canadian counterpart to Underwriters' Laboratories. Acme's transformers are also constructed and rated to comply with

CSA Standards C22.2-47 and C22.2-66 and carry the CSA Certification Label.

All of Acme's transformers are manufactured to meet National Electrical Code requirements.

Other Agencies and Standards:

- National Electrical Manufacturers Association (NEMA) ST-20 1992 (R1978)
- American National Standards Institute (ANSI)
- OSHA
- IEEE



How to overcurrent protect (OCP) 600 volt class transformers and associated wiring . . . in accordance with the '99 National Electric Code (Articles 450-3(b) and 240-3 (i))

Case	Type of Supply Voltage	Phase	Number of Wires on Secondary	Protection Required	OCP Location	Primary		Secondary	
						Current (AMPS)	OCP (% of rating)	Current (AMPS)	OCP (% of rating)
1	Main	1Ø	2	Primary Only	A	≥9 <9, ≥2 <2	125 ① 167 max. 300 max.	Not Required	
2	Main	1Ø 3Ø	More than 2 Not Applicable	Primary & Secondary ②	A & B	≥9 <9, ≥2 <2	125 ① 167 max. 300 max.	≥9 <9	125 ① 167 max.
3	Feeder Circuit with OCP	1Ø	2	None on Either	—		Not Required		Not Required
4	Feeder Circuit with OCP	1Ø 3Ø	More than 2 Not Applicable	Secondary Only ②	B		Not Required	9 <9	125 ① 167 max.

Acme® Transformer™ Products vs. U/L Insulation Systems & U/L Standards

Acme Construction Style	Acme Catalog Product Name	U/L Standard	U/L Product Category	U/L File Number	U/L Listed Control #	U/L Insulation Number	Insulation System Temp./C	kVA Single Phase	kVA Three Phase
Enclosed	General Purpose and Buck-Boost	506	XPTQ	E79947V1	50B8	B3223	130	.050-.150	N/A
Compound Filled (Encapsulated)	General Purpose Buck-Boost & DIT	506	XPTQ	E79947V1	50B8	X3221 H3221	155 180	.25-5.0 7.5-25.0	3.0-6.0 7.5-75.0
	Panel Tran®	1062	YEFR	E56936V1	N/A	H3180 H3221	180 180	5.0 7.5-25.0	N/A 9.0-30.0
	Swim Pool & Spa	379	HDGV	E111069V1	N/A	H3180	180	0.10-.30	N/A
	Hardwired CVR	1012	QQFU	E86492V1	6B81	B3223 X3221	130 155	.25-3.0 5.0-15.0	N/A N/A
	Portable PLC	1012	QQFU	E86492V1	60B1	B3223	130	.25-2.0	N/A
Open Core & Coil	Industrial Control	506	XPTQ	E79947V1	50B8	B3223	130	.050-5.0	N/A
Air Cooled Ventilated & Non Ventilated	General Purpose Opti-Miser® & DIT	1561	XQNX	E12547V3	542B	C3222	220	37.5-250.0	25-1000
Enclosed	Air Conditioning and Refrigeration Appliance	NONE	NONE	NONE	N/A	NONE	130	.085-2.0	N/A

① % of rated current (or next higher standard rating).

② In cases where the secondary is overcurrent protected, the primary overcurrent protection rating can be no more than 250% (2.5 times) full load amps (shown on above chart). For example, if a 10 kVA, single phase transformer has a 480V primary and a 120/240 secondary, and the secondary is overcurrent protected, maximum primary overcurrent protection rating is 20.8 amps (full load current) x 2.5 (250%) = 52. Therefore, use a standard 50 amp fuse or breaker selected from NEC Section 240-6 (below).

Section 240-6 of the 1999 National Electrical Code. The standard ampere ratings for fuses and inverse time circuit breakers shall be considered 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500, 600, 700, 800, 1000, 1200, 1600, 2000, 2500, 3000, 4000, 5000 and 6000 amperes.

Exception: Additional standard ratings for fuses shall be considered 1, 3, 6, 10, and 601. "Extracted by permission from ANSI/NFPA 70-1999, National Electrical Code®, Copyright®, 1999, National Fire Protection Association, Boston, MA."

Acme Electric—Power Distribution Products Division has never used polychlorinated biphenyls (PCBs) in the manufacture of our quality products.