

GROUP XII



277/480 PRIMARY VOLTS — 208/277 SECONDARY VOLTS — 1Ø, 60 Hz

kVA	CATALOG NO.	APPROX. DIMENSIONS Inches (Cm.)			APPROX. SHIP WEIGHT Lbs. (Kg.)	TYPE MTG. W – Wall F – Floor	KNOCKOUTS Inches (Cm.)	WEATHER SHIELD P/N	Wiring Diagrams & Design Figures Begin on Page 154
		HEIGHT	WIDTH	DEPTH					
0.25	GP12250S	8.68 (22.0)	4.08 (10.4)	3.88 (9.9)	12 (5.4)	W	0.50-0.75 (1.3-1.9)	NA	78-B
0.50	GP12500S	9.06 (23.0)	4.37 (11.1)	4.20 (10.7)	19 (8.6)	W	0.50-0.75 (1.3-1.9)	NA	78-B
1.00	GP121000S	10.50 (26.7)	5.50 (14.0)	5.13 (13.0)	30 (13.6)	W	0.50-0.75 (1.3-1.9)	NA	78-B
3.00	GP123000S	11.50 (29.2)	10.31 (26.2)	7.13 (18.1)	58 (26.3)	W	0.75-1.25 (1.9-3.2)	NA	78-C
5.00	GP125000S	14.38 (36.5)	10.31 (26.2)	7.13 (18.1)	80 (36.3)	W	0.75-1.25 (1.9-3.2)	NA	78-C
10.00	GP1210000S	15.19 (38.6)	13.50 (34.3)	10.84 (27.5)	125 (56.7)	W	0.75-1.25 (1.9-3.2)	NA	78-D
15.00	GP1215000S	16.94 (43.0)	14.12 (35.9)	11.59 (29.4)	161 (70.0)	W	1.00-1.50 (2.5-3.8)	NA	79-D

SELECTION CHARTS

THREE PHASE

GROUP A



208 DELTA PRIMARY VOLTS — 480Y/277 SECONDARY VOLTS — 3Ø, 60 Hz

kVA	CATALOG NO.	APPROX. DIMENSIONS Inches (Cm.)			APPROX. SHIP WEIGHT Lbs. (Kg.)	TYPE MTG. W – Wall F – Floor	KNOCKOUTS Inches (Cm.)	WEATHER SHIELD P/N	Wiring Diagrams & Design Figures Begin on Page 154
		HEIGHT	WIDTH	DEPTH					
15.0	T3793671S	18.86 (48.0)	20.30 (51.6)	9.03 (22.9)	245 (111.0)	F ①	NA	NA	48-I
30.0	TP793684S	25.50 (64.8)	24.40 (62.0)	19.40 (49.3)	330 (150.0)	F ①	NA	WSA1	46-E
45.0	TP793694S	25.50 (64.8)	24.40 (62.0)	19.40 (49.3)	400 (181.0)	F ①	NA	WSA1	46-E
75.0	TP793704S	29.41 (74.7)	28.15 (71.5)	22.37 (56.8)	530 (240.0)	F ①	NA	WSA2	46-E
112.5	TP793714S	35.47 (90.1)	31.90 (81.0)	26.90 (68.3)	750 (340.0)	F	NA	WSA3	46-E
150.0	TP793724S	41.52 (105.5)	32.90 (83.6)	29.87 (75.9)	950 (430.9)	F	NA	WSA4	46-E
225.0	TP793734S	41.52 (105.5)	32.90 (83.6)	29.87 (75.9)	1200 (544.0)	F	NA	WSA4	46-E
300.0	TP793744S	45.60 (115.8)	39.50 (100.3)	35.50 (90.2)	1550 (703.0)	F	NA	WSA5	46-E

Notes: 15 kVA unit encapsulated (exempt from TP1), 30 through 300 kVA TP1 compliant

GROUP B

240 DELTA PRIMARY VOLTS — 208Y/120 SECONDARY VOLTS — 3Ø, 60 Hz

kVA	CATALOG NO.	APPROX. DIMENSIONS Inches (Cm.)			APPROX. SHIP WEIGHT Lbs. (Kg.)	TYPE MTG. W – Wall F – Floor	KNOCKOUTS Inches (Cm.)	WEATHER SHIELD P/N	Wiring Diagrams & Design Figures Begin on Page 154
		HEIGHT	WIDTH	DEPTH					
9.0	T2A533601S	14.03 (36.0)	17.77 (45.1)	11.52 (29.3)	180 (81.6)	W	0.75-1.25 (1.9-3.2)	NA	18-F
15.0	T3533611S	18.86 (48.0)	20.30 (51.6)	9.03 (23.0)	250 (113.0)	F ①	NA	NA	18-I
30.0	TP533624S	25.50 (64.8)	24.39 (61.9)	19.37 (49.2)	325 (147.0)	F ①	NA	WSA1	19-E
45.0	TP533634S	25.50 (64.8)	24.39 (61.9)	19.37 (49.2)	350 (158.8)	F ①	NA	WSA1	19-E
75.0	TP533644S	29.41 (74.7)	28.15 (71.5)	22.37 (56.8)	450 (204.1)	F ①	NA	WSA2	19-E
112.5	TP533654S	35.47 (90.1)	31.90 (81.0)	26.88 (68.3)	696 (294.8)	F	NA	WSA3	19-E
150.0	TP533664S	41.52 (105.5)	32.90 (84.0)	29.87 (75.9)	978 (412.8)	F	NA	WSA4	19-E
225.0	TP533674S	41.52 (105.5)	32.90 (84.0)	29.87 (75.9)	1200 (544.0)	F	NA	WSA4	19-E

Notes: 9.0 through 15.0 kVA units encapsulated (exempt from TP1), 30 kVA through 225 kVA TP1 compliant

① Wall mounting brackets are available for these sizes, refer to page 145.

② Consult factory for wiring diagram.

Specification Guide for Single & Three Phase Encapsulated Transformers

1.0 Dry Type Transformers:

1.0.0 The following information should be utilized only by trained technical personnel. If you need assistance, please contact Acme's Technical Services Department at 800-334-5214.

1.0.1 Provide dry type, enclosed, epoxy encapsulated transformers as indicated and specified herein. Transformers must be Acme or approved equal.

1.0.2 Transformers must be designed, constructed and rated in accordance with UL, CSA, NEMA, ANSI, IEEE, and OSHA standards.

1.0.3 Transformers 3.0 - 75 kVA shall be compound filled, incorporating a 180 degree C insulation system and designed not to exceed a 115 degree C temperature rise above a 40 degree C ambient under full load conditions. Taps are to be provided on the primary side of the transformer. The catalog number suffix will provide the tap information outlined below:

SUFFIX TAP ARRANGEMENT

- 1S	2-5% BNFC
- 2S	1-5% ANFC & 1-5% BNFC
- 3S	2-2.5% ANFC & 4-2.5% BNFC
- 4S	2-2.5% ANFC & 2-2.5% BNFC
- 5S	2-5% ANFC & 2-5% BNFC

1.0.4 Transformer enclosure finish must be ASA 61 gray powder polyurethane paint.

1.0.5 Transformer enclosure temperature shall not exceed 65 degrees C plus the ambient.

1.0.6 Transformer enclosure shall be UL/NEMA Type 3R and so marked on the transformer.

1.0.7 Transformer shall incorporate an electrostatic shield for the attenuation of voltage spikes, line noise and transients.

1.0.8 Transformer coils are typically wound with aluminum or copper for increased insulation life, cooler operation and lower losses.

1.0.9 All primary tap connections and both primary and secondary phase conductors must be either copper wire or copper bus bar.

1.0.10 Transformers must operate at audible sound levels below ANSI/NEMA Standard ST-20. Sound levels will not exceed the following:

Up to 9 kVA	40 db
10 - 50 kVA	45 db
51 - 150 kVA	50 db

1.0.11 Transformer enclosures shall be grounded per the National Electric Code.

1.0.12 Complete shop drawings must be submitted for approval on all Dry Type Transformers.

1.0.13 Typical performance data must be submitted for approval on all transformers. Factory tests must be made in accordance with the latest revisions of ANSI Test Code C57.12.91 for Dry Type Transformers. Performance data must contain but not be limited to:

- (a) No load losses.
- (b) Full load losses.
- (c) Polarity and phase rotation.
- (d) Impedance at reference temperature.
- (e) Efficiencies at 25, 75, and 100% load.
- (f) Regulation at 100% and 80% power factor.
- (g) Audible sound level.
- (h) Insulation class and rated temperature rise.
- (i) Dimensions and weight.
- (j) Applied potential test.
- (k) Induced potential test.
- (l) Excitation current.
- (m) IR, IX, and IZ percentages.
- (n) Reference and ambient temperature.

1.0.14 Warranty: Transformer must be warranted against defects in materials, workmanship and performance for ten years from date of manufacture.

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.

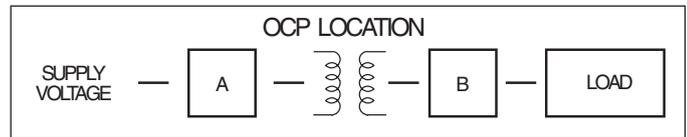
The Canadian Standards Association is the Canadian counterpart to Underwriters' Laboratories. Acme's transformers are also constructed and rated to comply with

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.