

TA Series Open Core & Coil Industrial Control Transformers

Industrial control transformers are used to reduce supply voltages to 230 V or lower for the operation of electromagnetic devices such as contactors, solenoids, relays, and timers. They are especially designed to accommodate the momentary current inrush caused when electromagnetic components are energized... without sacrificing secondary voltage stability beyond practical limits.

Acme Industrial Control Transformers are dry-type, step-down transformers with the secondary control circuit isolated from the primary line circuit to assure maximum safety.

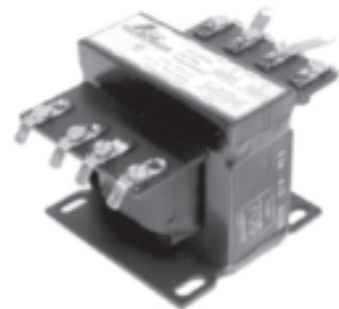
Voltage regulation of Acme Industrial Control Transformers exceeds standards recommended by the National Electrical Manufacturers Association. Secondary circuit voltage drop between no-load and momentary overload remains exceptionally low. This excellent secondary circuit voltage regulation assures reliable operation of electromagnetic components and may permit the use of a smaller and less expensive industrial control transformer.

FEATURES

- Constructed with high quality silicon steel lamination to minimize core losses and increase efficiency.
- Designs incorporate precision wound coils for improved regulation.
- Primary fuse blocks and secondary fuse kits available and easily adaptable.
- Series-parallel connecting links save wiring and labor costs.
- Sturdy phenolic terminal panel protects the coil from foreign objects and mechanical damage.
- Copper windings on all groups.
- 130°C Insulation class. 80°C temperature rise.
- Wire retention on both primary and secondary terminals.
- Mounting plate adapts to various mounting dimensions.
- Voltage regulation exceeds NEMA requirements.
- UL Listed, CSA Certified.
- Attractive finish, nameplate, and design features enhance the end product.



Primary Fuse Kit with Snap-on Secondary Fuse Block



Jumper Link Connections



Secondary Fuse Clips



Integrally Mounted Fuse Blocks

Acme Industrial Control Transformers Meet or Exceed UL, CSA, NEMA & ANSI

Acme Industrial Control Transformers 50 through 5000 VA are UL Listed, File E79947 and CSA certified, File 7357.

Laminations—High-permeability silicon steel continuously annealed to minimize core losses.

Magnet Wire—Copper magnet wire is coated with high temperature-resisting insulating film.

Coils—Precision wound by machine; total turns per coil automatically counted.

Mounting—Heavy steel mounting plates add strength to core construction and provide firm mounting, slotted to facilitate installation.

Terminal Boards—Sturdy phenolic terminal boards.

Sizing Primary Fuses:

Primary Amps < 2, fuse size is 300% of rated primary current.

Primary Amps 2 < 9, fuse size is 167% of rated primary current.

Primary Amps ≥ 9, fuse size is 125% of rated primary current.

Sizing Secondary Fuses:

Secondary Amps < 9, fuse size is 167% of rated secondary current.

Secondary Amps ≥ 9, fuse size is 125% of rated secondary current.

GROUP J

240 X 480 PRIMARY VOLTS—120/240 SECONDARY VOLTS—1Ø, 60 Hz

CATALOG NO.	VA RATING	OUTPUT AMPS @ 120V	APPROX. DIMENSIONS INCHES (CM.)						APPROX. SHIP WEIGHT LBS. (KG.)	PRIMARY FUSE BLOCK PART NO.
			A	B	C	D	E	F		
TB83210	50	0.42	4.13 (10.5)	3.00 (7.6)	2.70 (6.8)	2.50 (6.4)	2.30 (5.8)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112700
TB83212	100	0.83	4.90 (12.4)	3.00 (7.6)	2.70 (6.8)	2.50 (6.4)	3.35 (8.5)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112700
TB83213	150	1.25	4.92 (12.5)	3.75 (9.5)	3.40 (8.6)	3.13 (8.0)	2.81 (7.1)	.22 x .50 (0.6 x 1.3)	6 (2.7)	PL112701
TB83215	250	2.08	5.38 (13.7)	4.50 (11.4)	3.84 (9.8)	3.75 (9.5)	3.05 (7.7)	.22 x .50 (0.6 x 1.3)	9 (4.1)	PL112702
TB83218	500	4.17	6.06 (15.4)	5.25 (13.3)	4.47 (11.4)	4.06 (10.3)	4.06 (10.3)	.22 x .50 (0.6 x 1.3)	13 (5.9)	PL112704
TB83219	750	6.25	6.43 (16.3)	5.25 (13.3)	4.47 (11.4)	4.38 (11.1)	5.30 (13.0)	.31 x .50 (0.8 x 1.3)	21 (9.5)	PL112704
TB83220	1000	8.33	7.34 (18.6)	6.75 (17.1)	5.78 (14.7)	5.75 (14.6)	3.69 (9.4)	.31 x .50 (0.8 x 1.3)	24 (10.9)	PL112705
TA83221	1500	12.50	8.80 (22.4)	6.75 (17.1)	5.72 (14.5)	5.75 (14.6)	5.02 (12.8)	.31 x .50 (0.8 x 1.3)	43 (19.5)	PL112705
TA83222	2000	16.67	9.15 (23.2)	6.75 (17.1)	5.72 (14.5)	5.75 (14.6)	5.42 (13.8)	.31 x .50 (0.8 x 1.3)	48 (21.8)	PL112705
TA83223	3000	25.00	7.00 (17.8)	7.50 (19.1)	7.66 (19.5)	6.50 (16.5)	5.55 (14.1)	.41 x .81 (1.0 x 2.1)	51 (23.1)	PL112706
TA83224	5000	41.67	7.06 (17.9)	11.92 (30.3)	8.75 (22.2)	6.75 (17.1)	5.75 (14.6)	.41 x .81 (1.0 x 2.1)	90 (40.8)	PL112707

GROUP K

600 PRIMARY VOLTS—120/240 SECONDARY VOLTS—1Ø, 60 Hz

CATALOG NO.	VA RATING	OUTPUT AMPS @ 120V	APPROX. DIMENSIONS INCHES (CM.)						APPROX. SHIP WEIGHT LBS. (KG.)	PRIMARY FUSE BLOCK PART NO.
			A	B	C	D	E	F		
TA3310	50	0.42	4.13 (10.5)	3.00 (7.6)	2.59 (6.6)	2.50 (6.4)	2.30 (5.8)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112700
TA83311	100	0.83	4.90 (12.4)	3.00 (7.6)	2.59 (6.6)	2.50 (6.4)	3.35 (8.5)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112700
TA83312	150	1.25	4.92 (12.5)	3.75 (9.5)	3.21 (8.2)	3.13 (8.0)	2.81 (7.1)	.22 x .50 (0.6 x 1.3)	6 (2.7)	PL112701
TA83313	250	2.08	5.38 (13.7)	4.50 (11.4)	3.84 (9.8)	3.75 (9.5)	3.05 (7.7)	.22 x .50 (0.6 x 1.3)	9 (4.1)	PL112702
TA83314	500	4.17	6.06 (15.4)	4.88 (12.4)	4.15 (10.5)	4.06 (10.3)	4.06 (10.3)	.22 x .50 (0.6 x 1.3)	13 (5.9)	PL112703
TA83315	750	6.25	6.43 (16.3)	5.25 (13.3)	4.47 (11.4)	4.38 (11.1)	4.00 (10.2)	.31 x .50 (0.8 x 1.3)	21 (9.5)	PL112704
TA83316	1000	8.33	7.34 (18.6)	6.75 (17.1)	5.72 (14.5)	5.75 (14.6)	3.69 (9.4)	.31 x .50 (0.8 x 1.3)	24 (10.9)	PL112705

* See fusing chart for secondary fuse kits.

TA & TB SERIES PROTECTIVE DEVICES— Primary Fuse Kits

FUSES ARE NOT INCLUDED. CONSULT CATALOG FOR PROPER FUSE SELECTION.

CATALOG NO.	APPROX. SHIP WEIGHT	Lbs. (Kg.)
PL112700	1	(0.5)
PL112701	1	(0.5)
PL112702	1	(0.5)
PL112703	1	(0.5)
PL112704	1	(0.5)
PL112705	1	(0.5)
PL112706	1	(0.5)
PL112707	1	(0.5)

TA SERIES PROTECTIVE DEVICES—Secondary Fuse Kits

FOR USE WITH INDUSTRIAL CONTROL TRANSFORMERS THROUGH 1500 VA.

CATALOG NO.	APPROX. SHIP WEIGHT	Lbs. (Kg.)
PL112600	0.5	(0.2)
PL112601	0.5	(0.2)
PL112602	1	(0.5)
PL112603	1	(0.5)

TB SERIES PROTECTIVE DEVICES—Secondary Fuse Kits

CATALOG NO.	VA	DESCRIPTION	APPROX. SHIPPING WT. (LBS./KG.)
PL79924		Fuse Kit: Secondary Fuse 1/4" x 1-1/4" w/ARM	1.0 (0.5)
PL79928	50–350	Link: Small Jumper Links (Qty. 2)	1.0 (0.5)
PL79929	500 & 750	Link: Large Jumper Links (Qty. 2)	1.0 (0.5)
PL79930	50–350	Fuse Kit: Secondary Fuse Midget w/ARM	1.0 (0.5)
PL79931	500 & 1000	Fuse Kit: Secondary Fuse Midget w/ARM	1.0 (0.5)

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.

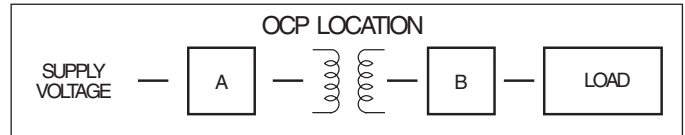
The Canadian Standards Association is the Canadian counterpart to Underwriters' Laboratories. Acme's transformers are also constructed and rated to comply with

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.