

NEW

## TB Series Open Core & Coil Industrial Control Transformers

Acme's TB Series Industrial Control Transformers are especially designed to accommodate the momentary current inrush caused when electromagnetic components are energized... without sacrificing secondary voltage stability beyond practical limits.

Acme's TB Series 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's TB Series 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.

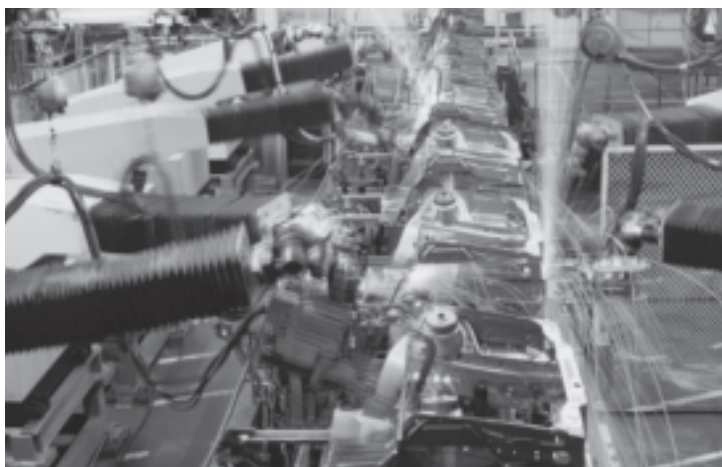


### FEATURES & BENEFITS

- 600 volt class and below.
- 50–1000 VA, 50/60 Hz.
- 80°C temperature rise, 130°C insulation class.
- Constructed with high quality silicon steel lamination to minimize core losses and increase efficiency.
- Designs incorporate precision split bobbin 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.
- Terminal blocks allow full access for ring terminals for easy installation even with solid strand conductors.
- Integrally molded terminal blocks with isolation barriers to prevent arc over.
- Footprint matches TA Series for easy interchangeability.
- Copper windings on all groups.
- Heavy gauge steel mounting plate adapts to various mounting dimensions.
- Voltage regulation exceeds NEMA requirements.
- UL Listed and CSA Certified.
- Meets or exceeds UL, CSA, NEMA, ANSI and OSHA Standards.
- Ten-year limited warranty.

### APPLICATIONS

- Motor Starters
- Contactors
- Solenoids
- Timer Circuits
- Relays
- Control Panels
- Robotics





## GROUP D

## 208/240/277/380/480 PRIMARY VOLTS—24 SECONDARY VOLTS—1Ø, 50/60 Hz

CATALOG NO.	VA RATING	OUTPUT AMPS	APPROX. DIMENSIONS INCHES (CM.)						APPROX. SHIP WEIGHT LBS. (KG.)	PRIMARY FUSE BLOCK PART NO.	SECONDARY FUSE KIT ① PART NO.	SECONDARY FUSE SIZE 24 VOLTS
			A	B	C	D	E	F				
TB81321	50	2.08	4.08 (10.4)	3.75 (9.5)	3.40 (8.6)	3.13 (8.0)	2.19 (5.6)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112701	★	3 <sup>2</sup> / <sub>10</sub> amp
TB81322	75	3.13	4.31 (10.9)	3.75 (9.5)	3.40 (8.6)	3.13 (8.0)	2.31 (5.9)	.22 x .50 (0.6 x 1.3)	5 (2.3)	PL112701	★	5 amps
TB81323	100	4.17	4.52 (11.5)	3.75 (9.5)	3.40 (8.6)	3.13 (8.0)	2.63 (6.7)	.22 x .50 (0.6 x 1.3)	5 (2.3)	PL112701	★	6 <sup>1</sup> / <sub>4</sub> amps
TB81324	150	6.25	4.75 (12.1)	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	★	10 amps
TB81325	250	10.42	5.24 (13.3)	4.65 (11.8)	4.15 (10.5)	4.06 (10.3)	3.25 (8.3)	.22 x .50 (0.6 x 1.3)	11 (5.0)	PL112702	★	15 amps
TB81326	350	14.58	6.02 (15.3)	5.25 (13.3)	4.47 (11.4)	4.38 (11.1)	4.00 (10.2)	.31 x .50 (0.8 x 1.3)	18 (8.2)	PL112704	★	20 amps
TB81327	500	20.83	6.51 (16.5)	5.25 (13.3)	4.47 (11.4)	4.38 (11.1)	4.19 (10.6)	.31 x .50 (0.8 x 1.3)	19 (8.6)	PL112704	★	30 amps
TB81328	750	31.25	7.08 (18.0)	6.75 (17.1)	5.78 (14.7)	5.75 (14.6)	3.81 (9.7)	.31 x .50 (0.8 x 1.3)	26 (11.8)	PL112705	★	— 33 amps
TB81329	1000	41.67	8.10 (20.6)	6.75 (17.1)	5.72 (14.5)	5.75 (14.6)	4.63 (11.8)	.31 x .50 (0.8 x 1.3)	33 (15.0)	PL112705	★	—

\* See fusing chart for secondary fuse kits.

## GROUP E

## 208/277/380 PRIMARY VOLTS—115/95 SECONDARY VOLTS—1Ø, 50/60 Hz

CATALOG NO.	VA RATING	OUTPUT AMPS @ 115V	APPROX. DIMENSIONS INCHES (CM.)						APPROX. SHIP WEIGHT LBS. (KG.)	PRIMARY FUSE BLOCK PART NO.	SECONDARY FUSE KIT ① PART NO.	SECONDARY FUSE SIZE 115 VOLTS
			A	B	C	D	E	F				
TB81301	50	0.43	4.35 (11.0)	3.00 (7.6)	2.70 (6.8)	2.50 (6.4)	2.61 (6.6)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112700	★	<sup>6</sup> / <sub>10</sub> amp
TB81302	75	0.65	4.74 (12.0)	3.00 (7.6)	2.70 (6.8)	2.50 (6.4)	2.81 (7.1)	.22 x .50 (0.6 x 1.3)	4 (1.8)	PL112700	★	1 amp
TB81303	100	0.87	4.45 (11.3)	3.75 (9.5)	3.40 (8.6)	3.13 (8.0)	2.44 (6.2)	.22 x .50 (0.6 x 1.3)	5 (2.3)	PL112701	★	1 <sup>1</sup> / <sub>4</sub> amps
TB81304	150	1.30	5.00 (12.7)	3.75 (9.5)	3.84 (9.8)	3.13 (8.0)	3.06 (7.8)	.22 x .50 (0.6 x 1.3)	5 (2.3)	PL112701	★	2 amps
TB81305	250	2.17	5.68 (14.4)	4.50 (11.4)	3.84 (9.8)	3.75 (9.5)	4.06 (10.3)	.22 x .50 (0.6 x 1.3)	13 (5.9)	PL112702	★	3 <sup>1</sup> / <sub>2</sub> amps
TB81306	350	3.04	6.30 (16.0)	4.65 (11.8)	4.15 (10.5)	4.06 (10.3)	4.75 (12.1)	.22 x .50 (0.6 x 1.3)	18 (8.2)	PL112702	★	5 amps
TB81307	500	4.35	6.22 (15.8)	5.25 (13.3)	4.47 (11.4)	4.38 (11.1)	4.56 (11.6)	.22 x .50 (0.6 x 1.3)	20 (9.1)	PL112704	★	7 amps
TB81308	750	6.52	6.82 (17.3)	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	★	10 amps
TB81309	1000	8.70	7.96 (20.2)	6.75 (17.1)	5.72 (14.5)	5.75 (14.6)	4.44 (11.3)	.31 x .50 (0.8 x 1.3)	31 (14.1)	PL112705	★	12 amps

\* See fusing chart for secondary fuse kits.

① Secondary Fuse Kit PL112603 may be substituted for PL112600 thru PL112602 when Primary Fuse Kit is used. See page 58.

② See chart for integrally mounted fuse block catalog number suffix.

## 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:

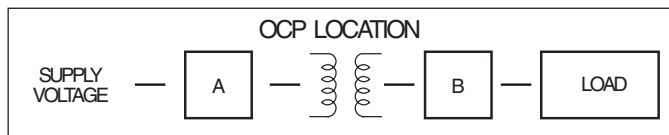
National Electrical Manufacturers Association (NEMA)

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	$\geq 9$ $< 9, \geq 2$ $< 2$	125 ① 167 max. 300 max.	Not Required	
2	Main	1Ø 3Ø	More than 2 Not Applicable	Primary & Secondary ②	A & B	$\geq 9$ $< 9, \geq 2$ $< 2$	125 ① 167 max. 300 max.	$\geq 9$ $< 9$	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.