AE/CE Series Industrial Control Transformers

The Acme Electric AE and CE Series Industrial Control Transformers are designed specifically for machine tool control circuit applications. These transformers have the ability to handle potentially damaging high in-rush currents that occur when electromagnetic components are energized, without sacrificing the required stable output voltage. Designed to meet or exceed the demands of international standards, combined with the full breadth of product offering, the AE and CE Series Transformers from Acme Electric are the ideal solution for your industrial control applications.

FEATURES & BENEFITS

- Epoxy encapsulated design protects core & coil assembly from potentially damaging contaminants.
- Integrally molded terminal blocks with isolation barriers to prevent arc over, terminal blocks allow full access for ring terminals for easy installation and solid termination.
- Heavy gauge steel mounting feet.
- Available factory or field installed fuse blocks provide integral fusing on the primary or primary and secondary.
- Dual labeling for easy product identification when equipped with a fuse block.
- 50-750 VA, 50/60 Hz.
- UL and cUL Listed, CE Marked (CE Series only).
- Ten-year limited warranty.
- 55°C Temperature Rise.
- 105°C Insulation Class.

Cooler. Cleaner. More Compact.

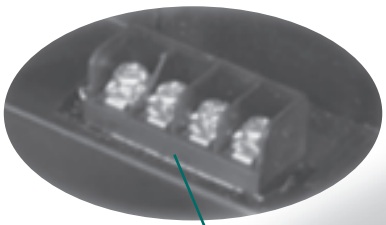
The AE and CE Series design improves the dissipation of the heat away from the core and coil assembly providing cooler operation. In addition, the AE and CE Series industrial control transformers seal the transformer's windings and internal terminations within an epoxy encapsulant encased in a durable thermoplastic end cap, protecting them from potentially damaging moisture, dirt and other ambient contaminants. Furthermore, Acme's compact design helps minimize the mounting footprint, providing more flexibility in applications where space is at a premium.

CE Series for Global Applications

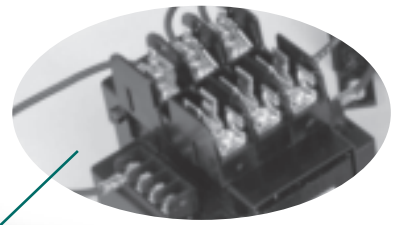
Acme's CE Series Encapsulated Industrial Control Transformers carry the CE mark, indicating it complies with the requirements established by the International Electrotechnical Commission (IEC) for use of control circuit transformers in the countries of the European Union. Regulations that apply to control transformers include Low Voltage Directive 73/23/EEC and Electromagnetic Compatibility (EMC) Directive 89/336/EEC.

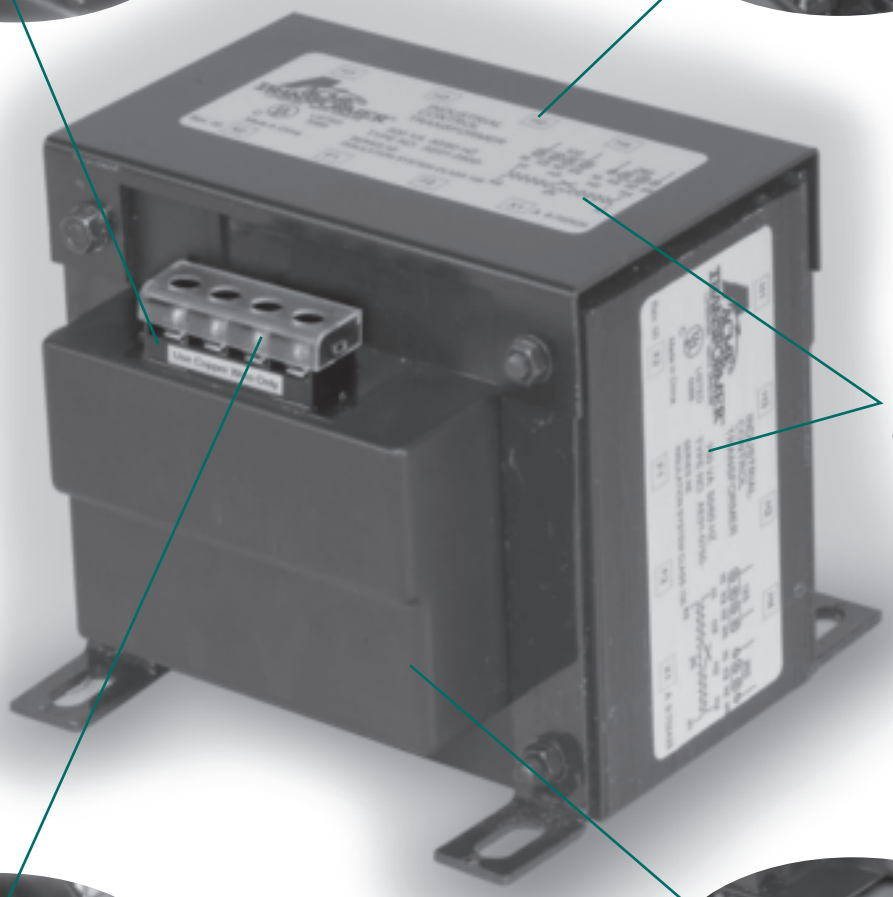
FEATURES

Integrally molded terminal blocks with combination slotted/phillips screws. Isolation barriers protect against arc over while able to accommodate a full ring terminal.

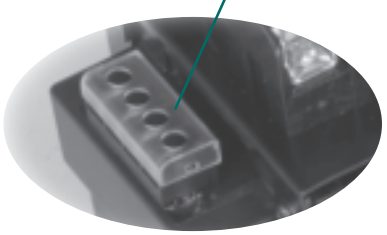


Integrally mounted fuse blocks available in standard and touch-proof (CE Series) style.

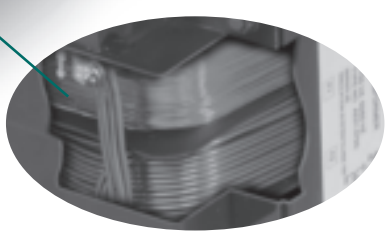




Dual labels for identification of fused modules



CE Series offers touch-proof terminals, isolating live contacts for additional safety.



Epoxy encapsulated copper windings and internal terminations, providing isolation from external contaminants and physical damage.

GROUP VI

240 x 480, 230 x 460, 220 x 440 PRIMARY VOLTS —120/115/110 SECONDARY VOLTS — 1Ø, 50/60 Hz

VA RATING	CATALOG NUMBER	APPROX. DIMENSIONS INCHES (CM.) A	B	C	D	E	MOUNTING SLOT F	APPROX. SHIPPING WT
50	AE060050	2.69 (6.8)	3.00 (7.6)	2.81 (7.1)	2.03 (5.1)	2.53 (6.4)	.20 x .40 (0.5 x 1.0)	2.5 (1.1)
75	AE060075	3.22 (8.1)	3.00 (7.6)	2.81 (7.1)	2.53 (6.4)	2.53 (6.4)	.20 x .40 (0.5 x 1.0)	3.5 (1.6)
100	AE060100	3.28 (8.3)	3.41 (8.6)	3.09 (7.8)	2.41 (6.1)	2.81 (7.1)	.20 x .40 (0.5 x 1.0)	4.0 (1.8)
150	AE060150	3.88 (9.8)	3.84 (9.7)	3.41 (8.6)	2.97 (7.5)	3.13 (7.5)	.20 x .40 (0.5 x 1.0)	6.5 (2.9)
250	AE060250	4.13 (10.4)	4.50 (11.4)	3.84 (9.7)	2.94 (7.4)	3.75 (9.5)	.20 x .40 (0.5 x 1.0)	9.2 (4.2)
350	AE060350	5.00 (12.7)	4.50 (11.4)	3.84 (9.7)	3.78 (9.6)	3.75 (9.5)	.20 x .40 (0.5 x 1.0)	12.7 (5.8)
500	AE060500	5.53 (14.0)	5.25 (13.3)	4.66 (11.8)	4.16 (10.5)	4.34 (11.0)	.31 x .69 (0.8 X 1.7)	19.0 (8.6)
750	AE060750	6.81 (17.3)	5.25 (13.3)	4.66 (11.8)	5.75 (14.6)	4.31 (10.9)	.31 x .69 (0.8 X 1.7)	26.0 (11.8)

GROUP VII

208/230/460 PRIMARY VOLTS — 115 SECONDARY VOLTS — 1Ø, 50/60 Hz

VA RATING	CATALOG NUMBER	APPROX. DIMENSIONS INCHES (CM.) A	B	C	D	E	MOUNTING SLOT F	APPROX. SHIPPING WT
50	AE070050	2.84 (7.2)	3.00 (7.6)	2.81 (7.1)	2.16 (5.4)	2.53 (6.4)	.20 x .40 (0.5 x 1.0)	2.6 (1.2)
100	AE070100	3.41 (6.6)	3.41 (8.6)	3.09 (7.8)	2.69 (6.8)	2.81 (7.1)	.20 x .40 (0.5 x 1.0)	4.2 (1.9)
150	AE070150	3.88 (9.8)	3.75 (9.5)	3.41 (8.6)	3.09 (7.8)	3.09 (7.8)	.20 x .40 (0.5 x 1.0)	6.7 (3.1)
250	AE070250	4.16 (10.5)	4.50 (11.4)	4.03 (10.2)	3.28 (8.3)	3.75 (9.5)	.20 x .40 (0.5 x 1.0)	9.5 (4.3)
350	AE070350	5.19 (13.1)	4.50 (11.4)	4.03 (10.2)	4.38 (11.1)	3.75 (9.5)	.20 x .40 (0.5 x 1.0)	13.4 (6.1)
500	AE070500	5.88 (14.9)	5.25 (13.3)	4.66 (11.8)	4.78 (12.1)	4.38 (11.1)	.31 x .69 (0.8 X 1.7)	19.0 (8.6)
750	AE070750	6.81 (17.3)	5.25 (13.3)	4.66 (11.8)	5.75 (14.6)	4.38 (11.1)	.31 x .69 (0.8 X 1.7)	27.0 (12.2)

GROUP XII

230/460/575 PRIMARY VOLTS — 95/115 SECONDARY VOLTS — 1Ø, 50/60 Hz

VA RATING	CATALOG NUMBER	APPROX. DIMENSIONS INCHES (CM.) A	B	C	D	E	MOUNTING SLOT F	APPROX. SHIPPING WT
50	AE120050	2.88 (7.3)	3.00 (7.6)	2.81 (7.1)	2.19 (5.5)	2.53 (6.4)	.20 x .40 (0.5 x 1.0)	2.6 (1.2)
100	AE120100	3.59 (9.1)	3.41 (8.6)	3.09 (7.8)	2.88 (7.3)	2.81 (7.1)	.20 x .40 (0.5 x 1.0)	4.2 (1.9)
150	AE120150	3.94 (10.0)	3.78 (9.6)	3.41 (8.6)	3.28 (8.3)	3.09 (7.8)	.20 x .40 (0.5 x 1.0)	6.8 (3.1)
250	AE120250	4.16 (10.5)	4.50 (11.4)	4.03 (10.2)	3.22 (8.1)	3.75 (9.5)	.20 x .40 (0.5 x 1.0)	9.5 (4.3)
350	AE120350	5.00 (12.7)	4.50 (11.4)	4.03 (10.2)	3.69 (9.3)	4.31 (10.9)	.20 x .40 (0.5 x 1.0)	13.2 (6.0)
500	AE120500	5.84 (14.8)	5.25 (13.3)	4.66 (11.8)	4.66 (11.8)	4.38 (11.1)	.31 x .69 (0.8 X 1.7)	19.2 (8.7)
750	AE120750	6.81 (17.3)	5.25 (13.3)	4.66 (11.8)	5.81 (14.7)	4.38 (11.1)	.31 x .69 (0.8 X 1.7)	27.0 (12.2)

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.