

### Industrial Control Transformers



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### Standards and Certifications

Eaton dry-type distribution transformers are approved, listed, recognized or may comply with the following standards.

#### Engineering Standards

Catalog Product Name	UL Standard ①	UL/cUL File Number	UL Listed Control Number	cUL Energy Efficiency File Number	CSA File Number	Insulation System Temp/°C	kVA Single-Phase	kVA Three-Phase	Applicable IEC Standard
<b>Industrial Control Transformer</b>									
MTE	5085	E46323	702X	—	—	105	0.025–1.5	N/A	61558
MTK	5085	E46323	702X	—	—	180	0.05–5	N/A	61558
<b>Encapsulated Transformer</b>									
AP	5085	E10156	591H	—	—	180	3–10	N/A	61558
AP	1561	E78389	591H	—	—	180	15	N/A	61558
EP	5085	E10156	591H	—	LR60545	180	0.05–10	N/A	61558
EP	1561	E78389	591H	EV157 ②	LR60545 ③	180	15–50	N/A	61558 ④ / 726 ⑤
EPT	5085	E10156	591H	—	LR60545	180	N/A	3–9	61558 ⑥ / 726 ⑦
EPT	1561	E78389	591H	EV157 ⑧	LR60545 ⑨	180	N/A	15–75	726
MPC	1062	E53449	591H	—	LR60546	180	3–25	15–30	—
<b>Ventilated Transformer</b>									
DS-3	1561	E78389	591H	—	—	220	15–167	N/A	60726
DT-3	1561	E78389	591H	—	—	220	N/A	15–750	60726
KT	1561	E78389	591H	—	—	220	N/A	9–500	N/A

#### Notes

- ① UL 5085 replaces UL 506.
- ② Applies to 25–50 kVA.
- ③ Applies to 25 kVA.
- ④ Applies to 15–25 kVA.
- ⑤ Applies to 37.5 kVA.
- ⑥ Applies to 3 kVA.
- ⑦ Applies to 5–9 kVA.
- ⑧ Applies to 30–75 kVA.
- ⑨ Applies to 30 kVA.

In addition to the above standards, Eaton dry-type distribution transformers are also manufactured in compliance with the applicable standards listed below.

Not all of the following standards apply to every transformer.

**NEC:** National Electrical Code®

**NEMA ST-1:** Specialty Transformers (C89.1) (control transformers).

**NEMA ST-20:** General-Purpose Transformers.

**NEMA TP-1:** Guide for Determining Energy Efficiency for Distribution Transformers.

**NEMA 250:** Enclosures for Electrical Equipment (1000 volts maximum).

**IEEE C57.12.01:** General Requirements for Dry-Type Distribution and Power Transformers (including those with solid-cast and/or resin-encapsulated windings).

**ANSI C57.12.70:** Terminal Markings and Connections for Distribution and Power Transformers.

**ANSI C57.12.91:** Standard Test Code for Dry-Type Distribution and Power Transformers.

**CSA C22 No. 47-M90:** Air-Cooled Transformers (Dry-Type).

**CSA C9-M1981:** Dry-Type Transformers.

**CSA C22.2 No. 66:** Specialty Transformers.

**CSA 802-94:** Maximum Losses for Distribution, Power and Dry-Type Transformers.

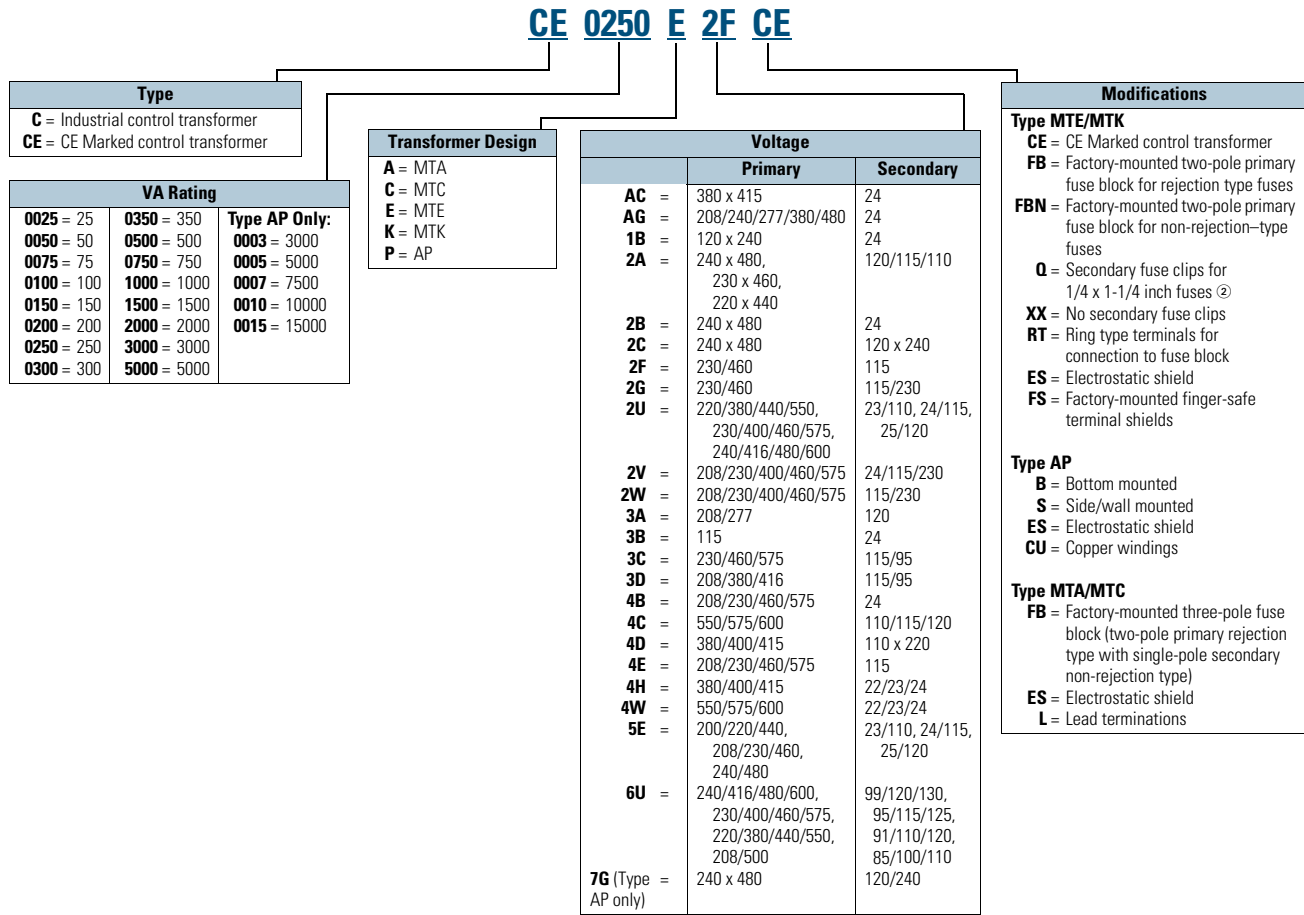
**NEMA TP-2:** Standard Test Method for Measuring the Energy Consumption of Distribution Transformers.

**NEMA TP-3**



### Catalog Number Selection

Industrial Control Transformers, CE Marked Control Transformers—Example: CE0250E2FCE ①



**Notes**

① For Eaton's dry-type transformers catalog number selection, see Volume 2, CA08100003E.

② Fuse clip covers not available with this option.

Contact your local Eaton sales office for voltage combinations not shown. Use table for catalog number breakdown only. Do not use to create catalog numbers because all combinations may not be valid.

#### Type MTE Transformer



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### Type MTE

#### Product Description

**Note:** The following pages provide listings for most standard transformer ratings and styles. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

- Epoxy-encapsulated coils

#### Application Description

Transformers provide stepped-down voltages to machine tool control devices, enabling control circuits to be isolated from all power and lighting circuits. This allows the use of grounded or ungrounded circuits that are independent of the power or lighting grounds; thus, greater safety is afforded the operator. The control transformer line is particularly adaptable on applications where compact construction is demanded.

**Note:** The MTG “open core-coil design” has been superseded by the epoxy-encapsulated core-coil design MTE with no change to dimensions or functionality.

#### Features, Benefits and Functions

- Epoxy encapsulated
- Laminations of high-quality silicon steel to minimize core losses and optimize performance
- Copper magnet wire for high-quality, efficient operation
- Secondary fuse clips where applicable
- Optional primary fusing
- Molded-in terminals
- 50/60 Hz operation
- 130°C insulation system standard
- Performance meets/exceeds requirements of ANSI/NEMA ST-1
- Regulation exceeds ANSI/NEMA requirements for all ratings
- 25–1500 VA ratings
- Molded-in terminals for maximum durability

#### Standards and Certifications

- UL listed
- cUL listed
- RoHS compliant



#### Industry Standards

All Eaton dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE Standards. All 600 volt class transformers are UL listed unless otherwise noted.

#### Catalog Number Selection

Please refer to **Page V7-T7-3**.

**Primary: 200/220/440, 208/230/460, 240/480**  
**Secondary: 23/110, 24/115, 25/120 with Fuse Clips for 13/32 x 1-1/2 Fuses**

VA	Wiring Diagram ①	Weight Lbs (kg)	Style Number
50	7	3.4 (1.5)	C0050E5E ②
75	7	4.8 (2.2)	C0075E5E ②
100	7	5.9 (2.7)	C0100E5E ②
150	7	7.9 (3.6)	C0150E5E
200	7	10.6 (4.8)	C0200E5E
250	7	13.9 (6.3)	C0250E5E
300	7	15.5 (7.0)	C0300E5E
350	7	16.8 (7.6)	C0350E5E
500	7	23.4 (10.6)	C0500E5E

**Universal Design (MTE Epoxy Encapsulated)**

**Primary: 240/416/480/600, 230/400/460/575, 220/380/440/550, 208/500**  
**Secondary: 99/120/130, 95/115/125, 91/110/120, 85/100/110 with Fuse Clips for 13/32 x 1-1/2 Fuses**

VA	Wiring Diagram ①	Weight Lbs (kg)	Style Number
50	8	4.0 (1.8)	C0050E6U ②③
100	8	6.6 (3.0)	C0100E6U ②③
150	8	8.8 (4.0)	C0150E6U ②④
250	8	14.7 (6.7)	C0250E6U ②④
350	8	18.6 (8.4)	C0350E6U ②④
500	8	25.6 (11.6)	C0500E6U ②④
750	8	30.5 (13.8)	C0750E6U ②④

**Transformers with Primary Fuse Blocks**

**Primary: 240 x 480, 230 x 460, 220 x 440 with Jumpers and Two-Pole Primary Fuse Block for Rejection-Type Fuses**  
**Secondary: 120/115/110 with Fuse Clips for 13/32 x 1-1/2 Fuses**

VA	Wiring Diagram ①	Weight Lbs (kg)	Style Number
50	1	2.8 (1.3)	C0050E2AFB ②
75	1	3.7 (1.7)	C0075E2AFB ②
100	1	4.4 (2.0)	C0100E2AFB ②
150	1	6.9 (3.1)	C0150E2AFB
200	1	8.7 (3.9)	C0200E2AFB
250	1	10.2 (4.6)	C0250E2AFB
300	1	11.5 (5.2)	C0300E2AFB
350	1	13.8 (6.3)	C0350E2AFB
500	1	19.4 (8.8)	C0500E2AFB
750	1	28.3 (12.8)	C0750E2AFB
1000	1	29.7 (13.4)	C1000E2AFB
1500	1	40.2 (18.1)	C1500E2AFB

**Primary: 240 x 480 with Jumpers and Two-Pole Primary Fuse Block for Rejection-Type Fuses**  
**Secondary: 24 with Fuse Clips for 13/32 x 1-1/2 Fuses**

VA	Wiring Diagram ①	Weight Lbs (kg)	Style Number
50	2	2.8 (1.3)	C0050E2BFB ②
75	2	3.8 (1.7)	C0075E2BFB ②
100	2	4.4 (2.1)	C0100E2BFB ②
150	2	6.9 (3.1)	C0150E2BFB
200	2	8.7 (3.9)	C0200E2BFB
250	2	10.3 (4.7)	C0250E2BFB
300	2	11.6 (5.3)	C0300E2BFB
350	2	13.6 (6.2)	C0350E2BFB
500	2	17.7 (8.0)	C0500E2BFB

**Notes**

- ① See Page V7-T7-11 for wiring diagrams.
- ② 105°C insulation system.
- ③ Type MTG open core-coil universal design has been superseded by Type MTE epoxy encapsulated universal design with no changes to form, fit or function.
- ④ Type MTE epoxy encapsulated universal design.

## Wiring Diagrams

Diagram 1

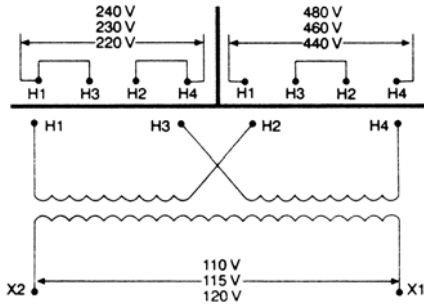


Diagram 5

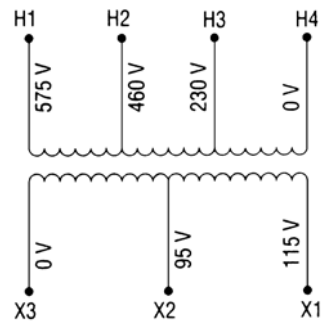


Diagram 2

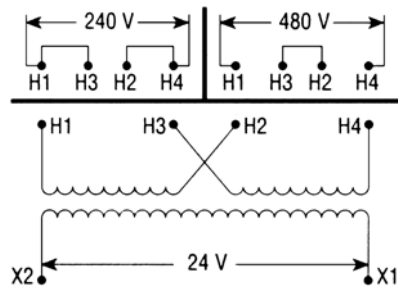


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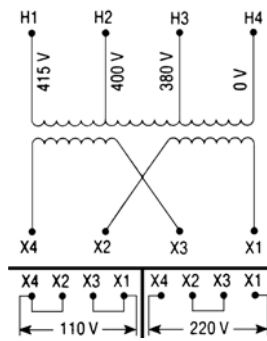


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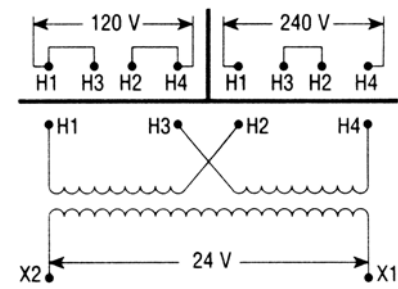


Diagram 7

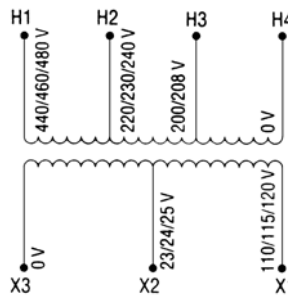


Diagram 4

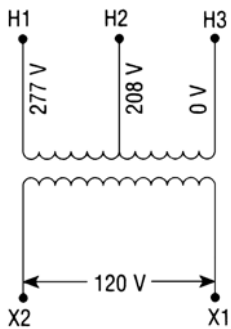


Diagram 8

