

Dry-Type Transformer Family



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Type DT-3



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.

Types DS-3, DT-3

- Ventilated, NEMA 2 enclosure standard
- Suitable for indoor applications, outdoors when weathershields are also installed
- Upright mounting only
- 220°C insulation system
- 150°C rise standard; 115°C or 80°C rise optional
- Available in single-phase ratings 15–167 kVA, 600 volts primary (DS-3)
- Available in three-phase ratings 15–1500 kVA and up to 600 volts primary (DT-3)

Application Description

NEMA TP-1-2002 compliant energy-efficient transformers are specifically designed to meet the energy efficiency standards set forth in NEMA Standards publication, TP-1-2002, *“Guide for Determining Energy Efficiency for Distribution Transformers.”* Surveys have shown that the average loading of low voltage dry-type distribution transformers, over a 24-hour period, is approximately 35%. NEMA TP-1 compliant transformers are optimized to offer maximum efficiency at 35% of nameplate rating.

The range of products covered by NEMA TP-1-2002 are:

NEMA TP-1-2002 Product Range

Rating	Voltage Class	Voltage
	Primary voltage	34.5 kV and below
	Secondary voltage	600V and below
Dry-Type Rating	Single-phase	10–833 kVA
	Three-phase	15–2500 kVA
Liquid Rating	Single-phase	10–833 kVA
	Three-phase	15–2500 kVA

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Transformers that are currently specifically excluded from the scope of NEMA Standard TP-1-2002 include:

- Liquid-filled transformers below 10 kVA
- Dry-type transformers below 15 kVA
- AC and DC drives transformers
- Rectifier transformers designed for high harmonics
- Autotransformers
- Non-distribution transformers, such as UPS transformers
- Special impedance or regulation transformers
- Regulating transformers
- Sealed and non-ventilated transformers
- Machine tool transformers
- Welding transformers
- Transformers with tap ranges greater than 15%
- Transformers with a frequency other than 60 Hz
- Grounding transformers
- Testing transformers

Efficiency levels set forth in NEMA TP-1-2002.

NEMA TP-1-2002 Efficiency Levels

**Tables of Energy Efficiency
NEMA Class 1 Efficiency Levels
Dry-Type Distribution Transformers—
Low Voltage (600V and below)**

Single-Phase		Three-Phase	
kVA	Efficiency	kVA	Efficiency
15	97.7	15	97.0
25	98.0	30	97.5
37.5	98.2	45	97.7
50	98.3	75	98.0
75	98.5	112.5	98.2
100	98.6	150	98.3
167	98.7	225	98.5
250	98.8	300	98.6
333	98.9	500	98.7
—	—	750	98.8
—	—	1000	98.9

Features, Benefits and Functions

- 60 Hz operation (except as noted)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels
- Meet federal energy efficiency requirements for low voltage dry-type distribution transformers effective as of January 1, 2007

Standards and Certifications

- UL listed



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.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-185**.

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Product Selection

Additional Product Selection information begins on **Page V2-T2-187**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

208 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	260A	226 (103)	WS11	T29M11S15EE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	260A	346 (157)	WS11	T29M11S25EE
37.5	2 at +2.5%	4 at -2.5	DS-3	150	818	260A	374 (170)	WS11	T29M11S37EE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	260A	545 (247)	WS16	T29M11S50EE
75	1 at +5%	2 at -5%	DS-3	150	819	551A	568 (258)	WS16	T29R11S75EE
100	1 at +5%	2 at -5%	DS-3	150	814E	449A	1178 (535)	WS13	T29R11S99EE

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	842	3XA	196 (89)	WS45	T20P11S15AEE
25	②	②	DS-3	150	842	3XA	261 (118)	WS45	T20P11S25AEE
37.5	②	②	DS-3	150	843	3XA	304 (138)	WS43	T20P11S37AEE
50	②	②	DS-3	150	843	3XA	396 (180)	WS43	T20P11S50AEE
75	②	②	DS-3	150	844	3XA	688 (312)	WS44	T20P11S75AEE
100	②	②	DS-3	150	844	3XA	699 (317)	WS44	T20P11S99AEE
167	2 at +2.5%	4 at -2.5%	DS-3	150	814E	288A	1294 (587)	WS13	T48M11S67EE ③
15	②	②	DS-3	115	816	3XA	246 (112)	WS11	T20P11F15EE
25	②	②	DS-3	115	818	3XA	373 (169)	WS11	T20P11F25EE
37.5	②	②	DS-3	115	818	3XA	380 (173)	WS11	T20P11F37EE
50	②	②	DS-3	115	819	3XA	590 (268)	WS16	T20P11F50EE
75	②	②	DS-3	115	820	3XA	691 (314)	WS16	T20P11F75EE
100	②	②	DS-3	115	821	3XA	844 (383)	WS13	T20P11F99EE
15	②	②	DS-3	80	818	3XA	360 (163)	WS11	T20P11B15EE
25	②	②	DS-3	80	818	3XA	370 (168)	WS11	T20P11B25EE
37.5	②	②	DS-3	80	819	3XA	565 (257)	WS16	T20P11B37EE
50	②	②	DS-3	80	820	3XA	680 (309)	WS16	T20P11B50EE
75	②	②	DS-3	80	821	3XA	900 (409)	WS13	T20P11B75EE

Notes

- ① Weights subject to change.
 ② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.
 ③ 480 volt primary only.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

277 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	262C	220 (100)	WS11	T27M11S15EE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	262C	346 (157)	WS11	T27M11S25EE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	262C	391 (178)	WS11	T27M11S37EE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	262C	555 (252)	WS16	T27M11S50EE
75	1 at +5%	2 at -5%	DS-3	150	819	②	568 (258)	WS16	T27R11S75EE
100	1 at +5%	2 at -5%	DS-3	150	814E	②	1178 (535)	WS13	T27R11S99EE

208 x 416 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	③	③	DS-3	150	816	3XF	246 (112)	WS11	T18P11S15EE
25	③	③	DS-3	150	818	3XF	359 (163)	WS11	T18P11S25EE
37.5	③	③	DS-3	150	818	3XF	374 (170)	WS11	T18P11S37EE
50	③	③	DS-3	150	819	3XF	555 (252)	WS16	T18P11S50EE
75	③	③	DS-3	150	820	3XF	665 (302)	WS16	T18P11S75EE
100	③	③	DS-3	150	821	3XF	841 (382)	WS13	T18P11S99EE

600 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	262B	243 (110)	WS11	T60M11S15EE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	262B	355 (161)	WS11	T60M11S25EE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	262B	375 (170)	WS11	T60M11S37EE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	262B	594 (270)	WS16	T60M11S50EE
75	2 at +2.5%	4 at -2.5%	DS-3	150	820	262B	755 (343)	WS16	T60M11S75EE
100	2 at +2.5%	4 at -2.5%	DS-3	150	821	262B	865 (393)	WS13	T60M11S99EE

Notes

- ① Weights subject to change.
 ② Contact your local Eaton sales office for these details.
 ③ 1 at +5%, 2 at -5% at 208 volts primary; 2 at +2.5%, 4 at -2.5% at 416 volts primary.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

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208 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	260A	275 (125)	WS11	T29M11S15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	260A	390 (177)	WS11	T29M11S25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	260A	440 (200)	WS11	T29M11S37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	260A	661 (300)	WS16	T29M11S50CUEE
75	1 at +5%	2 at -5%	DS-3	150	820	551A	805 (365)	WS16	T29R11S75CUEE
100	1 at +5%	2 at -5%	DS-3	150	821	449A	970 (440)	WS13	T29R11S99CUEE

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	3XA	270 (123)	WS11	T20P11S15CUEE
25	②	②	DS-3	150	818	3XA	406 (184)	WS11	T20P11S25CUEE
37.5	②	②	DS-3	150	818	3XA	453 (206)	WS11	T20P11S37CUEE
50	②	②	DS-3	150	819	3XA	657 (298)	WS16	T20P11S50CUEE
75	②	②	DS-3	150	820	3XA	803 (365)	WS16	T20P11S75CUEE
100	②	②	DS-3	150	821	3XA	960 (436)	WS13	T20P11S99CUEE
167	2 at +2.5%	4 at -2.5%	DS-3	150	814E	288A	1665 (756)	WS13	T48M11S67CUEE ③
15	②	②	DS-3	115	816	3XA	264 (120)	WS11	T20P11F15CUEE
25	②	②	DS-3	115	818	3XA	420 (191)	WS11	T20P11F25CUEE
37.5	②	②	DS-3	115	818	3XA	450 (204)	WS11	T20P11F37CUEE
50	②	②	DS-3	115	819	3XA	703 (319)	WS16	T20P11F50CUEE
75	②	②	DS-3	115	820	3XA	793 (360)	WS16	T20P11F75CUEE
100	②	②	DS-3	115	821	3XA	1085 (493)	WS13	T20P11F99CUEE
15	②	②	DS-3	80	818	3XA	407 (185)	WS11	T20P11B15CUEE
25	②	②	DS-3	80	818	3XA	430 (195)	WS11	T20P11B25CUEE
37.5	②	②	DS-3	80	819	3XA	685 (311)	WS16	T20P11B37CUEE
50	②	②	DS-3	80	820	3XA	799 (363)	WS16	T20P11B50CUEE
75	②	②	DS-3	80	821	3XA	1056 (479)	WS13	T20P11B75CUEE

277 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	262C	275 (125)	WS11	T27M11S15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	262C	390 (177)	WS11	T27M11S25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	262C	440 (200)	WS11	T27M11S37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	262C	661 (300)	WS16	T27M11S50CUEE
75	1 at +5%	2 at -5%	DS-3	150	820	④	805 (365)	WS16	T27R11S75CUEE
100	1 at +5%	2 at -5%	DS-3	150	821	④	970 (440)	WS13	T27R11S99CUEE

Notes

- ① Weights subject to change.
 ② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.
 ③ 480 volt primary only.
 ④ Contact your local Eaton sales office for these details.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

208 x 416 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	①	①	DS-3	150	816	3XF	275 (125)	WS11	T18P11S15CUEE
25	①	①	DS-3	150	818	3XF	390 (177)	WS11	T18P11S25CUEE
37.5	①	①	DS-3	150	818	3XF	440 (200)	WS11	T18P11S37CUEE
50	①	①	DS-3	150	819	3XF	661 (300)	WS16	T18P11S50CUEE
75	①	①	DS-3	150	820	3XF	805 (365)	WS16	T18P11S75CUEE
100	①	①	DS-3	150	821	3XF	970 (440)	WS13	T18P11S99CUEE

600 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	262B	290 (132)	WS11	T60M11S15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	262B	465 (211)	WS11	T60M11S25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	262B	495 (225)	WS11	T60M11S37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	262B	775 (352)	WS16	T60M11S50CUEE
75	2 at +2.5%	4 at -2.5%	DS-3	150	820	262B	900 (409)	WS16	T60M11S75CUEE
100	2 at +2.5%	4 at -2.5%	DS-3	150	821	262B	1195 (543)	WS13	T60M11S99CUEE

Notes

① 1 at +5%, 2 at -5% at 208 volts primary; 2 at +2.5%, 4 at -2.5% at 416 volts primary.

② Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

2

208 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	264A	275 (125)	WS11	T29M11E15EE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	264A	390 (177)	WS11	T29M11E25EE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	264A	440 (200)	WS11	T29M11E37EE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	264A	661 (300)	WS16	T29M11E50EE
75	1 at +5%	2 at -5%	DS-3	150	820	450A	805 (366)	WS16	T29R11E75EE
100	1 at +5%	2 at -5%	DS-3	150	821	450A	970 (440)	WS13	T29R11E99EE

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	261A	246 (112)	WS11	T20P11E15EE
25	②	②	DS-3	150	818	261A	359 (163)	WS11	T20P11E25EE
37.5	②	②	DS-3	150	818	261A	374 (170)	WS11	T20P11E37EE
50	②	②	DS-3	150	819	261A	555 (252)	WS16	T20P11E50EE
75	②	②	DS-3	150	820	261A	740 (336)	WS16	T20P11E75EE
100	②	②	DS-3	150	821	261A	841 (382)	WS13	T20P11E99EE
167	2 at +2.5%	4 at -2.5%	DS-3	150	814E	227A	1294 (587)	WS13	T48M11E67EE ③
15	②	②	DS-3	115	816	261A	246 (112)	WS11	T20P11F15EEES
25	②	②	DS-3	115	818	261A	373 (169)	WS11	T20P11F25EEES
37.5	②	②	DS-3	115	818	261A	380 (173)	WS11	T20P11F37EEES
50	②	②	DS-3	115	819	261A	590 (268)	WS16	T20P11F50EEES
75	②	②	DS-3	115	820	261A	691 (314)	WS16	T20P11F75EEES
100	②	②	DS-3	115	821	261A	844 (383)	WS13	T20P11F99EEES
15	②	②	DS-3	80	818	261A	360 (163)	WS11	T20P11B15EEES
25	②	②	DS-3	80	818	261A	370 (168)	WS11	T20P11B25EEES
37.5	②	②	DS-3	80	819	261A	565 (257)	WS16	T20P11B37EEES
50	②	②	DS-3	80	820	261A	680 (309)	WS16	T20P11B50EEES
75	②	②	DS-3	80	821	261A	900 (409)	WS13	T20P11B75EEES

277 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	④	275 (125)	WS11	T27M11E15EE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	④	390 (177)	WS11	T27M11E25EE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	④	440 (200)	WS11	T27M11E37EE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	④	661 (300)	WS16	T27M11E50EE
75	1 at +5%	2 at -5%	DS-3	150	820	④	805 (366)	WS16	T27R11E75EE
100	1 at +5%	2 at -5%	DS-3	150	821	④	970 (440)	WS13	T27R11E99EE

Notes

- ① Weights subject to change.
 ② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.
 ③ 480 volt primary only.
 ④ Contact your local Eaton sales office for these details.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

208 x 416 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	①	①	DS-3	150	816	243H	275 (125)	WS11	T43P11E15EE
25	①	①	DS-3	150	818	243H	390 (177)	WS11	T43P11E25EE
37.5	①	①	DS-3	150	818	243H	440 (200)	WS11	T43P11E37EE
50	①	①	DS-3	150	819	243H	661 (300)	WS16	T43P11E50EE
75	①	①	DS-3	150	820	③	805 (366)	WS16	T43P11E75EE
100	①	①	DS-3	150	821	③	970 (440)	WS13	T43P11E99EE

600 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	259A	275 (125)	WS11	T60M11E15EE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	259A	390 (177)	WS11	T60M11E25EE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	259A	440 (200)	WS11	T60M11E37EE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	259A	661 (300)	WS16	T60M11E50EE
75	1 at +5%	2 at -5%	DS-3	150	820	③	805 (366)	WS16	T60R11E75EE
100	1 at +5%	2 at -5%	DS-3	150	821	③	970 (440)	WS13	T60R11E99EE

Notes

① 1 at +5%, 2 at -5% at 208 volts primary; 2 at +2.5%, 4 at -2.5% at 416 volts primary.

② Weights subject to change.

③ Contact your local Eaton sales office for these details.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

2

208 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	264A	270 (123)	WS11	T29M11E15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	264A	423 (192)	WS11	T29M11E25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	264A	437 (198)	WS11	T29M11E37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	264A	620 (281)	WS16	T29M11E50CUEE
75	1 at +5%	2 at -5%	DS-3	150	820	450A	810 (368)	WS16	T29R11E75CUEE
100	1 at +5%	2 at -5%	DS-3	150	821	450A	980 (445)	WS13	T29R11E99CUEE

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	261A	270 (123)	WS11	T20P11E15CUEE
25	②	②	DS-3	150	818	261A	423 (192)	WS11	T20P11E25CUEE
37.5	②	②	DS-3	150	818	261A	437 (198)	WS11	T20P11E37CUEE
50	②	②	DS-3	150	819	261A	620 (281)	WS16	T20P11E50CUEE
75	②	②	DS-3	150	820	261A	810 (368)	WS16	T20P11E75CUEE
100	②	②	DS-3	150	821	261A	980 (445)	WS13	T20P11E99CUEE
15	②	②	DS-3	115	816	261A	254 (115)	WS11	T20P11F15CUEEES
25	②	②	DS-3	115	818	261A	453 (206)	WS11	T20P11F25CUEEES
37.5	②	②	DS-3	115	818	261A	480 (218)	WS11	T20P11F37CUEEES
50	②	②	DS-3	115	819	261A	718 (326)	WS16	T20P11F50CUEEES
75	②	②	DS-3	115	820	261A	793 (360)	WS16	T20P11F75CUEEES
100	②	②	DS-3	115	821	261A	1000 (454)	WS13	T20P11F99CUEEES
15	②	②	DS-3	80	818	261A	240 (109)	WS11	T20P11B15CUEEES
25	②	②	DS-3	80	818	261A	430 (195)	WS11	T20P11B25CUEEES
37.5	②	②	DS-3	80	819	261A	700 (318)	WS16	T20P11B37CUEEES
50	②	②	DS-3	80	820	261A	738 (335)	WS16	T20P11B50CUEEES
75	②	②	DS-3	80	821	261A	960 (436)	WS13	T20P11B75CUEEES

277 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	③	270 (123)	WS11	T27M11E15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	③	423 (192)	WS11	T27M11E25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	③	437 (198)	WS11	T27M11E37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	③	620 (281)	WS16	T27M11E50CUEE
75	1 at +5%	2 at -5%	DS-3	150	820	③	810 (368)	WS16	T27R11E75CUEE
100	1 at +5%	2 at -5%	DS-3	150	821	③	980 (445)	WS13	T27R11E99CUEE

Notes

- ① Weights subject to change.
 ② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.
 ③ Contact your local Eaton sales office for these details.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

208 x 416 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ②	Weathershield	Style Number
	FCAN	FCBN							
15	①	①	DS-3	150	816	243H	270 (123)	WS11	T43P11E15CUEE
25	①	①	DS-3	150	818	243H	423 (192)	WS11	T43P11E25CUEE
37.5	①	①	DS-3	150	818	243H	437 (198)	WS11	T43P11E37CUEE
50	①	①	DS-3	150	819	243H	620 (281)	WS16	T43P11E50CUEE
75	①	①	DS-3	150	820	③	810 (368)	WS16	T43P11E75CUEE
100	①	①	DS-3	150	821	③	980 (445)	WS13	T43P11E99CUEE

600 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3	150	816	259A	270 (123)	WS11	T60M11E15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3	150	818	259A	423 (192)	WS11	T60M11E25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3	150	818	259A	437 (198)	WS11	T60M11E37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3	150	819	259A	620 (281)	WS16	T60M11E50CUEE
75	1 at +5%	2 at -5%	DS-3	150	820	③	810 (368)	WS16	T60R11E75CUEE
100	1 at +5%	2 at -5%	DS-3	150	821	③	980 (445)	WS13	T60R11E99CUEE

Notes

① 1 at +5%, 2 at -5% at 208 volts primary; 2 at +2.5%, 4 at -2.5% at 416 volts primary.

② Weights subject to change.

③ Contact your local Eaton sales office for these details.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

208 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280E	218 (99)	WS38	V29M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280E	299 (136)	WS38	V29M28T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280E	376 (171)	WS38	V29M28T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280E	564 (256)	WS39	V29M28T75EE
112.5	1 at +5%	2 at -5%	DT-3	150	916A	324A	930 (422)	WS19	V29M28T12EE
150	1 at +5%	2 at -5%	DT-3	150	916A	324A	1013 (460)	WS19	V29M28T49EE
225	1 at +5%	2 at -5%	DT-3	150	918A	324A	1443 (655)	WS34	V29M28T22EE
300	1 at +5%	2 at -5%	DT-3	150	919E	289D	1697 (770)	WS35	V29M28T33EE
500	1 at +5%	2 at -5%	DT-3	150	920E	289D	2690 (1221)	WS35	V29M28T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280E	240 (109)	WS38	V29M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280E	320 (145)	WS38	V29M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280E	396 (180)	WS38	V29M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280E	607 (276)	WS39	V29M28F75EE
112.5	1 at +5%	2 at -5%	DT-3	115	916A	324A	960 (436)	WS19	V29M28F12EE
150	1 at +5%	2 at -5%	DT-3	115	916A	324A	1060 (481)	WS19	V29M28F49EE
225	1 at +5%	2 at -5%	DT-3	115	918A	324A	1500 (681)	WS34	V29M28F22EE
300	1 at +5%	2 at -5%	DT-3	115	919E	289D	1800 (817)	WS35	V29M28F33EE
500	1 at +5%	2 at -5%	DT-3	115	920E	289D	2900 (1317)	WS35	V29M28F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280E	280 (127)	WS38	V29M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280E	350 (159)	WS38	V29M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280E	560 (254)	WS39	V29M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280E	810 (368)	WS19	V29M28B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280E	950 (431)	WS19	V29M28B12EE
150	1 at +5%	2 at -5%	DT-3	80	918A	324A	1430 (649)	WS34	V29M28B49EE
225	1 at +5%	2 at -5%	DT-3	80	919E	289D	1750 (795)	WS35	V29M28B22EE
300	1 at +5%	2 at -5%	DT-3	80	920E	289D	2400 (1090)	WS35	V29M28B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

208 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342B	196 (89)	WS38	V29M47T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342B	296 (134)	WS38	V29M47T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342B	385 (175)	WS38	V29M47T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	342B	590 (268)	WS39	V29M47T75EE
112.5	1 at +5%	2 at -5%	DT-3	150	916A	351A	784 (356)	WS19	V29R47T12EE
150	1 at +5%	2 at -5%	DT-3	150	916A	351A	931 (423)	WS19	V29R47T49EE
225	1 at +5%	2 at -5%	DT-3	150	918A	333B	1550 (704)	WS34	V29R47T22EE
300	1 at +5%	2 at -5%	DT-3	150	919E	333B	2274 (1032)	WS35	V29R47T33EE
500	1 at +5%	2 at -5%	DT-3	150	919E	333B	2869 (1303)	WS35	V29R47T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342B	215 (98)	WS38	V29M47F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342B	380 (173)	WS38	V29M47F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342B	400 (182)	WS38	V29M47F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	342B	585 (266)	WS39	V29M47F75EE
112.5	1 at +5%	2 at -5%	DT-3	115	916A	351A	800 (363)	WS19	V29R47F12EE
150	1 at +5%	2 at -5%	DT-3	115	916A	351A	950 (431)	WS19	V29R47F49EE
225	1 at +5%	2 at -5%	DT-3	115	918A	333B	1591 (722)	WS34	V29R47F22EE
300	1 at +5%	2 at -5%	DT-3	115	919E	333B	2320 (1053)	WS35	V29R47F33EE
500	1 at +5%	2 at -5%	DT-3	115	919E	333B	2950 (1339)	WS35	V29R47F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342B	300 (136)	WS38	V29M47B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342B	390 (177)	WS38	V29M47B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	342B	550 (249)	WS39	V29M47B45EE
75	1 at +5%	2 at -5%	DT-3	80	916A	351A	757 (344)	WS19	V29R47B75EE
112.5	1 at +5%	2 at -5%	DT-3	80	916A	351A	930 (422)	WS19	V29R47B12EE
150	1 at +5%	2 at -5%	DT-3	80	918A	333B	1550 (704)	WS34	V29R47B49EE
225	1 at +5%	2 at -5%	DT-3	80	919E	333B	2275 (1033)	WS35	V29R47B22EE
300	1 at +5%	2 at -5%	DT-3	80	920E	333B	2870 (1303)	WS35	V29R47B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

240 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280C	206 (94)	WS38	V24M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280C	297 (135)	WS38	V24M28T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280C	332 (151)	WS38	V24M28T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280C	562 (255)	WS39	V24M28T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280C	760 (345)	WS19	V24M28T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280C	974 (442)	WS19	V24M28T49EE
225	1 at +5%	2 at -5%	DT-3	150	917	289A	1460 (663)	WS34	V24R28T22EE
300	1 at +5%	2 at -5%	DT-3	150	918A	289A	1652 (750)	WS34	V24R28T33EE
500	1 at +5%	2 at -5%	DT-3	150	919E	289A	2690 (1221)	WS35	V24R28T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280C	240 (109)	WS38	V24M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280C	389 (177)	WS38	V24M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280C	396 (180)	WS38	V24M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280C	593 (269)	WS39	V24M28F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280C	941 (427)	WS19	V24M28F12EE
150	1 at +5%	2 at -5%	DT-3	115	916A	280C	1060 (481)	WS19	V24R28F49EE
225	1 at +5%	2 at -5%	DT-3	115	917	289A	1500 (681)	WS34	V24R28F22EE
300	1 at +5%	2 at -5%	DT-3	115	918A	289A	1800 (817)	WS34	V24R28F33EE
500	1 at +5%	2 at -5%	DT-3	115	919E	289A	2900 (1317)	WS35	V24R28F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280C	280 (127)	WS38	V24M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280C	350 (159)	WS38	V24M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280C	560 (254)	WS39	V24M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280C	883 (401)	WS19	V24M28B75EE
112.5	1 at +5%	2 at -5%	DT-3	80	916A	280C	950 (431)	WS19	V24R28B12EE
150	1 at +5%	2 at -5%	DT-3	80	917	289A	1430 (649)	WS34	V24R28B49EE
225	1 at +5%	2 at -5%	DT-3	80	918A	289A	1750 (795)	WS34	V24R28B22EE
300	1 at +5%	2 at -5%	DT-3	80	919E	289A	2400 (1090)	WS35	V24R28B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

240 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342L	227 (103)	WS38	V24M47T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342L	306 (139)	WS38	V24M47T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342L	380 (173)	WS38	V24M47T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	342L	573 (260)	WS39	V24M47T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	342L	800 (363)	WS19	V24M47T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	342L	885 (402)	WS19	V24M47T49EE
225	1 at +5%	2 at -5%	DT-3	150	918A	333A	1612 (732)	WS34	V24R47T22EE
300	1 at +5%	2 at -5%	DT-3	150	919E	333A	1652 (750)	WS35	V24R47T33EE
500	1 at +5%	2 at -5%	DT-3	150	919E	333A	2695 (1224)	WS35	V24R47T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342L	240 (109)	WS38	V24M47F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342L	389 (177)	WS38	V24M47F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342L	396 (180)	WS38	V24M47F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	342L	593 (269)	WS39	V24M47F75EE
112.5	1 at +5%	2 at -5%	DT-3	115	916A	342L	941 (427)	WS19	V24R47F12EE
150	1 at +5%	2 at -5%	DT-3	115	916A	342L	1060 (481)	WS19	V24R47F49EE
225	1 at +5%	2 at -5%	DT-3	115	918A	333A	1500 (681)	WS34	V24R47F22EE
300	1 at +5%	2 at -5%	DT-3	115	919E	333A	1800 (817)	WS35	V24R47F33EE
500	1 at +5%	2 at -5%	DT-3	115	919E	333A	2900 (1317)	WS35	V24R47F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342L	280 (127)	WS38	V24M47B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342L	350 (159)	WS38	V24M47B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	342L	560 (254)	WS39	V24M47B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	342L	883 (401)	WS19	V24M47B75EE
112.5	1 at +5%	2 at -5%	DT-3	80	916A	342L	950 (431)	WS19	V24R47B12EE
150	1 at +5%	2 at -5%	DT-3	80	918A	333A	1430 (649)	WS34	V24R47B49EE
225	1 at +5%	2 at -5%	DT-3	80	919E	333A	1750 (795)	WS35	V24R47B22EE
300	1 at +5%	2 at -5%	DT-3	80	919E	333A	2400 (1090)	WS35	V24R47B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

440 Delta Volts to 220Y/127 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280J	204 (93)	WS38	V44M31T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280J	291 (132)	WS38	V44M31T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280J	351 (159)	WS38	V44M31T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280J	553 (251)	WS39	V44M31T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280J	793 (360)	WS19	V44M31T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280J	913 (415)	WS19	V44M31T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280J	1343 (610)	WS34	V44M31T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	918A	275F	1597 (725)	WS34	V44M31T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	275F	2590 (1176)	WS35	V44M31T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280J	202 (92)	WS38	V44M31F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280J	311 (141)	WS38	V44M31F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280J	418 (190)	WS38	V44M31F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280J	581 (264)	WS39	V44M31F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280J	829 (376)	WS19	V44M31F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280J	996 (452)	WS19	V44M31F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	280J	1569 (712)	WS34	V44M31F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280J	1908 (866)	WS37	V44M31F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	275F	3117 (1415)	WS35	V44M31F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280J	276 (125)	WS38	V44M31B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280J	350 (159)	WS38	V44M31B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280J	560 (254)	WS39	V44M31B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280J	810 (368)	WS19	V44M31B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280J	944 (429)	WS19	V44M31B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280J	1438 (653)	WS34	V44M31B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280J	1746 (793)	WS37	V44M31B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275F	2400 (1090)	WS35	V44M31B33EE

Notes

① Weights subject to change.

Additional voltage combinations are available. Contact your local Eaton sales office for assistance if the voltage you require is not included in this catalog. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	204 (93)	WS38	V48M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	291 (132)	WS38	V48M28T30EE
37.5	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	381 (173)	WS38	V48M28T37EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	351 (159)	WS38	V48M28T45EE
50	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280B	531 (241)	WS39	V48M28T50EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280B	553 (251)	WS39	V48M28T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	793 (360)	WS19	V48M28T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	913 (415)	WS19	V48M28T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	928	657B	1160 (527)	WS41	V48M28T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	929	657B	1415 (642)	WS42	V48M28T33EE
500	2 at +2.5%	2 at -2.5%	DT-3	150	924	428B	2415 (1097)	WS40	V48D28T55EE
750	2 at +2.5%	4 at -2.5%	DT-3	150	920E	275A	3340 (1516)	WS35	V48M28T77EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	202 (92)	WS38	V48M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	311 (141)	WS38	V48M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	418 (190)	WS38	V48M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280B	581 (264)	WS39	V48M28F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	829 (376)	WS19	V48M28F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	996 (452)	WS19	V48M28F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	280B	1569 (712)	WS34	V48M28F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280B	1908 (866)	WS37	V48M28F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	275A	3117 (1415)	WS35	V48M28F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	276 (125)	WS38	V48M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	350 (159)	WS38	V48M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280B	560 (254)	WS39	V48M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	810 (368)	WS19	V48M28B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	944 (429)	WS19	V48M28B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280B	1438 (653)	WS34	V48M28B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280B	1746 (793)	WS37	V48M28B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275A	2400 (1090)	WS35	V48M28B33EE
500	2 at +2.5%	4 at -2.5%	DT-3	80	920E	275A	3418 (1552)	WS35	V48M28B55EE

Notes

① Weights subject to change.

Additional voltage combinations are available. Contact your local Eaton sales office for assistance if the voltage you require is not included in this catalog. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	206 (94)	WS38	V48M22T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	291 (132)	WS38	V48M22T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	378 (172)	WS38	V48M22T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	282B	577 (262)	WS39	V48M22T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282B	790 (359)	WS19	V48M22T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282B	930 (422)	WS19	V48M22T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	291A	1476 (670)	WS34	V48M22T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	291A	1898 (862)	WS37	V48M22T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	291A	2590 (1176)	WS35	V48M22T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	206 (94)	WS38	V48M22F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	311 (141)	WS38	V48M22F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	418 (190)	WS38	V48M22F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	282B	581 (264)	WS39	V48M22F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282B	829 (376)	WS19	V48M22F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282B	1022 (464)	WS19	V48M22F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	282B	1565 (711)	WS34	V48M22F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	282B	1795 (815)	WS37	V48M22F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	291A	3120 (1416)	WS35	V48M22F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	278 (126)	WS38	V48M22B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	383 (174)	WS38	V48M22B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	282B	560 (254)	WS39	V48M22B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282B	810 (368)	WS19	V48M22B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282B	959 (435)	WS19	V48M22B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	282B	1287 (584)	WS34	V48M22B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	282B	1746 (793)	WS37	V48M22B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	291A	2400 (1090)	WS35	V48M22B33EE

Notes

① Lighting tap limited to 5% of nameplate full load capacity.

② Weights subject to change.

Additional voltage combinations are available. Contact your local Eaton sales office for assistance if the voltage you require is not included in this catalog. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

480 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	206 (94)	WS38	V48M47T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	281 (128)	WS38	V48M47T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	380 (173)	WS38	V48M47T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280B	565 (257)	WS39	V48M47T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	783 (355)	WS19	V48M47T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	945 (429)	WS19	V48M47T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280B	1413 (642)	WS34	V48M47T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	918A	275A	1910 (867)	WS34	V48M47T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	275A	2673 (1214)	WS35	V48M47T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	240 (109)	WS38	V48M47F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	316 (143)	WS38	V48M47F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	384 (174)	WS38	V48M47F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280B	670 (304)	WS39	V48M47F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	853 (387)	WS19	V48M47F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	982 (446)	WS19	V48M47F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	280B	1559 (708)	WS34	V48M47F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280B	1795 (815)	WS37	V48M47F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	275A	3120 (1416)	WS35	V48M47F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	271 (123)	WS38	V48M47B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	360 (163)	WS38	V48M47B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280B	563 (256)	WS39	V48M47B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	773 (351)	WS19	V48M47B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	954 (433)	WS19	V48M47B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280B	1330 (604)	WS34	V48M47B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280B	1827 (829)	WS37	V48M47B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275A	2540 (1153)	WS35	V48M47B33EE

Notes

① Weights subject to change.

Additional voltage combinations are available. Contact your local Eaton sales office for assistance if the voltage you require is not included in this catalog. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

600 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	231 (105)	WS38	V60M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	309 (140)	WS38	V60M28T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	375 (170)	WS38	V60M28T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280A	572 (260)	WS39	V60M28T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	801 (364)	WS19	V60M28T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	280A	1013 (460)	WS34	V60M28T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	918A	280A	1523 (691)	WS34	V60M28T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	280A	1697 (770)	WS35	V60M28T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	920E	280A	2690 (1221)	WS35	V60M28T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	240 (109)	WS38	V60M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	320 (145)	WS38	V60M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	396 (180)	WS38	V60M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280A	607 (276)	WS39	V60M28F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	960 (436)	WS19	V60M28F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	1060 (481)	WS19	V60M28F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	280A	1500 (681)	WS34	V60M28F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	280A	1800 (817)	WS35	V60M28F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	280A	2900 (1317)	WS35	V60M28F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	280 (127)	WS38	V60M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	350 (159)	WS38	V60M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280A	560 (254)	WS39	V60M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	810 (368)	WS19	V60M28B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	950 (431)	WS19	V60M28B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280A	1430 (649)	WS34	V60M28B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	280A	1750 (795)	WS35	V60M28B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	280A	2400 (1090)	WS35	V60M28B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

600 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282A	245 (111)	WS38	V60M22T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282A	313 (142)	WS38	V60M22T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282A	403 (183)	WS38	V60M22T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	282A	577 (262)	WS39	V60M22T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282A	790 (359)	WS19	V60M22T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	282A	1001 (454)	WS34	V60M22T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	918A	282A	1476 (670)	WS34	V60M22T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	282A	1898 (862)	WS35	V60M22T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	920E	282A	2590 (1176)	WS35	V60M22T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282A	206 (94)	WS38	V60M22F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282A	311 (141)	WS38	V60M22F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282A	418 (190)	WS38	V60M22F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	282A	581 (264)	WS39	V60M22F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282A	829 (376)	WS19	V60M22F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282A	1022 (464)	WS19	V60M22F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	282A	1565 (711)	WS34	V60M22F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	282A	1795 (815)	WS35	V60M22F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	282A	3120 (1416)	WS35	V60M22F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282A	278 (126)	WS38	V60M22B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282A	383 (174)	WS38	V60M22B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	282A	560 (254)	WS39	V60M22B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282A	810 (368)	WS19	V60M22B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282A	959 (435)	WS19	V60M22B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	282A	1287 (584)	WS34	V60M22B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	282A	1746 (793)	WS35	V60M22B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	282A	2400 (1090)	WS35	V60M22B33EE

Notes

- ① Lighting tap limited to 5% of nameplate full load capacity
 ② Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

600 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	206 (94)	WS38	V60M47T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	291 (132)	WS38	V60M47T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	382 (173)	WS38	V60M47T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280A	578 (262)	WS39	V60M47T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	811 (368)	WS19	V60M47T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	934 (424)	WS19	V60M47T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280A	1569 (712)	WS34	V60M47T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	280A	1997 (907)	WS37	V60M47T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	275C	2641 (1199)	WS35	V60M47T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	206 (94)	WS38	V60M47F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	311 (141)	WS38	V60M47F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	418 (190)	WS38	V60M47F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280A	581 (264)	WS39	V60M47F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	829 (376)	WS19	V60M47F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	1022 (464)	WS19	V60M47F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	280A	1565 (7101)	WS34	V60M47F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280A	1795 (815)	WS37	V60M47F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	275C	3120 (1416)	WS35	V60M47F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	278 (126)	WS38	V60M47B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	383 (174)	WS38	V60M47B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	280A	560 (254)	WS39	V60M47B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	810 (368)	WS19	V60M47B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	959 (435)	WS19	V60M47B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280A	1287 (584)	WS34	V60M47B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280A	1746 (793)	WS37	V60M47B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275C	2650 (1203)	WS35	V60M47B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

208 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	—	236 (107)	WS38	V29M28T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	—	351 (159)	WS38	V29M28T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	—	453 (206)	WS38	V29M28T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	—	687 (312)	WS39	V29M28T75CUEE
112.5	1 at +5%	2 at -5%	DT-3	150	916A	—	930 (422)	WS19	V29R28T12CUEE
150	1 at +5%	2 at -5%	DT-3	150	916A	—	1242 (564)	WS19	V29R28T49CUEE
225	1 at +5%	2 at -5%	DT-3	150	917	—	1763 (800)	WS34	V29R28T22CUEE
300	1 at +5%	2 at -5%	DT-3	150	918A	—	2300 (1044)	WS34	V29R28T33CUEE
500	1 at +5%	2 at -5%	DT-3	150	919E	—	3590 (1630)	WS35	V29R28T55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	—	265 (120)	WS38	V29M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	—	475 (215)	WS38	V29M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	—	475 (216)	WS38	V29M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	—	700 (318)	WS39	V29M28F75CUEE
112.5	1 at +5%	2 at -5%	DT-3	115	916A	—	935 (424)	WS19	V29R28F12CUEE
150	1 at +5%	2 at -5%	DT-3	115	916A	—	1274 (578)	WS19	V29R28F49CUEE
225	1 at +5%	2 at -5%	DT-3	115	917	—	1743 (791)	WS34	V29R28F22CUEE
300	1 at +5%	2 at -5%	DT-3	115	919E	—	2350 (1067)	WS35	V29R28F33CUEE
500	1 at +5%	2 at -5%	DT-3	115	920E	—	3690 (1675)	WS35	V29R28F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	—	381 (173)	WS38	V29M28B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	—	420 (191)	WS38	V29M28B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	—	510 (232)	WS38	V29M28B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	914D	—	940 (427)	WS39	V29M28B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	—	1300 (590)	WS19	V29M28B12CUEE
150	1 at +5%	2 at -5%	DT-3	80	918A	—	1800 (817)	WS34	V29R28B49CUEE
225	1 at +5%	2 at -5%	DT-3	80	919E	—	2400 (1090)	WS35	V29R28B22CUEE
300	1 at +5%	2 at -5%	DT-3	80	920E	—	3800 (1725)	WS35	V29R28B33CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

208 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342B	236 (107)	WS38	V29M47T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342B	351 (159)	WS38	V29M47T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342B	453 (206)	WS38	V29M47T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	342B	687 (312)	WS39	V29M47T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	351A	930 (422)	WS19	V29R47T12CUEE
150	1 at +5%	2 at -5%	DT-3	150	916A	351A	1242 (564)	WS19	V29R47T49CUEE
225	1 at +5%	2 at -5%	DT-3	150	917	333B	1763 (800)	WS34	V29R47T22CUEE
300	1 at +5%	2 at -5%	DT-3	150	918A	333B	2300 (1044)	WS34	V29R47T33CUEE
500	1 at +5%	2 at -5%	DT-3	150	919E	333B	3590 (1630)	WS35	V29R47T55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342B	265 (120)	WS38	V29M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342B	474.6 (215)	WS38	V29M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	342B	475 (216)	WS38	V29M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	342B	700 (318)	WS39	V29M47F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	342B	935 (424)	WS19	V29M47F12CUEE
150	1 at +5%	2 at -5%	DT-3	115	916A	351A	1274 (578)	WS19	V29R47F49CUEE
225	1 at +5%	2 at -5%	DT-3	115	917	333B	1743 (791)	WS34	V29R47F22CUEE
300	1 at +5%	2 at -5%	DT-3	115	919E	333B	2350 (1067)	WS35	V29R47F33CUEE
500	1 at +5%	2 at -5%	DT-3	115	920E	333B	3690 (1675)	WS35	V29R47F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342B	381 (173)	WS38	V29M47B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342B	420 (191)	WS38	V29M47B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	342B	510 (232)	WS38	V29M47B45CUEE
75	1 at +5%	2 at -5%	DT-3	80	914D	342B	940 (427)	WS39	V29R47B75CUEE
112.5	1 at +5%	2 at -5%	DT-3	80	916A	342B	1300 (590)	WS19	V29R47B12CUEE
150	1 at +5%	2 at -5%	DT-3	80	918A	342B	1800 (817)	WS34	V29R47B49CUEE
225	1 at +5%	2 at -5%	DT-3	80	919E	333B	2400 (1090)	WS35	V29R47B22CUEE
300	1 at +5%	2 at -5%	DT-3	80	920E	333B	3800 (1725)	WS35	V29R47B33CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

240 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280C	246 (112)	—	V24M28T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280C	331 (150)	—	V24M28T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280C	289 (131)	—	V24M28T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280C	664 (301)	—	V24M28T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280C	—	—	V24M28T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280C	1130 (513)	—	V24M28T49CUEE
225	1 at +5%	2 at -5%	DT-3	150	—	—	—	—	V24R28T22CUEE
300	1 at +5%	2 at -5%	DT-3	150	—	—	—	—	V24R28T33CUEE
500	1 at +5%	2 at -5%	DT-3	150	—	—	—	—	V24R28T55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280C	680 (308)	—	V24M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M28F12CUEE
150	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R28F49CUEE
225	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R28F22CUEE
300	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R28F33CUEE
500	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R28F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280C	346 (157)	—	V24M28B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M28B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M28B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M28B75CUEE
112.5	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R28B12CUEE
150	1 at +5%	2 at -5%	DT-3	80	917	289A	1774 (805)	—	V24R28B49CUEE
225	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R28B22CUEE
300	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R28B33CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

240 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342L	341 (155)	—	V24M47T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	342L	436 (198)	—	V24M47T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	914D	342L	685 (311)	—	V24M47T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	342L	—	—	V24M47T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	—	—	—	V24M47T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	—	—	—	V24M47T49CUEE
225	1 at +5%	2 at -5%	DT-3	150	—	—	—	—	V24R47T22CUEE
300	1 at +5%	2 at -5%	DT-3	150	—	—	—	—	V24R47T33CUEE
500	1 at +5%	2 at -5%	DT-3	150	—	—	—	—	V24R47T55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	—	—	—	V24M47F75CUEE
112.5	1 at +5%	2 at -5%	DT-3	115	916A	351C	1009 (458)	—	V24R47F12CUEE
150	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R47F49CUEE
225	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R47F22CUEE
300	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R47F33CUEE
500	1 at +5%	2 at -5%	DT-3	115	—	—	—	—	V24R47F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M47B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M47B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M47B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	—	—	—	V24M47B75CUEE
112.5	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R47B12CUEE
150	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R47B49CUEE
225	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R47B22CUEE
300	1 at +5%	2 at -5%	DT-3	80	—	—	—	—	V24R47B33CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings**440 Delta Volts to 220Y/127 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280J	250 (114)	WS38	V44M31T15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280J	350 (159)	WS38	V44M31T30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280J	416 (189)	WS38	V44M31T45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280J	643 (292)	WS39	V44M31T75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280J	876 (398)	WS19	V44M31T12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280J	1064 (483)	WS19	V44M31T49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280J	1545 (701)	WS34	V44M31T22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	275F	2050 (931)	WS37	V44M31T33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	275F	3681 (1671)	WS35	V44M31T55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280J	256 (116)	WS38	V44M31F15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280J	337 (153)	WS38	V44M31F30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280J	446 (202)	WS38	V44M31F45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280J	662 (301)	WS39	V44M31F75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280J	914 (415)	WS19	V44M31F12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280J	1132 (514)	WS19	V44M31F49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	280J	2036 (924)	WS34	V44M31F22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	275F	2325 (1056)	WS37	V44M31F33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	275F	3681 (1671)	WS35	V44M31F55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280J	349 (158)	WS38	V44M31B15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280J	410 (186)	WS38	V44M31B30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280J	504 (229)	WS38	V44M31B45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280J	818 (371)	WS19	V44M31B75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280J	1065 (484)	WS19	V44M31B12CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	80	917	280J	1410 (640)	WS34	V44M31B49CUUE
22	2 at +2.5%	4 at -2.5%	DT-3	80	923	280J	2030 (922)	WS37	V44M31B22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275F	3041 (1381)	WS35	V44M31B33CUUE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	250 (114)	WS38	V48M28T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	350 (159)	WS38	V48M28T30CUEE
37.5	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	415 (188)	WS38	V48M28T37CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	416 (189)	WS38	V48M28T45CUEE
50	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280B	647 (294)	WS39	V48M28T50CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280B	643 (292)	WS39	V48M28T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	876 (398)	WS19	V48M28T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	1064 (483)	WS19	V48M28T49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	928	657B	1371 (622)	WS41	V48M28T22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	929	657B	1622 (736)	WS42	V48M28T33CUEE
500	2 at +2.5%	2 at -2.5%	DT-3	150	924	428B	3681 (1671)	WS40	V48D28T55CUEE
750	2 at +2.5%	4 at -2.5%	DT-3	150	920E	275A	4891 (2221)	WS35	V48M28T77CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	256 (116)	WS38	V48M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	337 (153)	WS38	V48M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	446 (202)	WS38	V48M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280B	662 (301)	WS39	V48M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	914 (415)	WS19	V48M28F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	1132 (514)	WS19	V48M28F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	275A	2036 (924)	WS34	V48M28F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	275A	2325 (1056)	WS37	V48M28F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919	275A	3681 (1671)	WS35	V48M28F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	349 (158)	WS38	V48M28B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	410 (186)	WS38	V48M28B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	504 (229)	WS38	V48M28B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	818 (371)	WS19	V48M28B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	1065 (484)	WS19	V48M28B12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280B	1410 (640)	WS34	V48M28B49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	275A	2030 (922)	WS37	V48M28B22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275A	3041 (1381)	WS35	V48M28B33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	80	920E	275A	4696 (2132)	WS35	V48M28B55CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	253 (115)	WS38	V48M22T15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	352 (160)	WS38	V48M22T30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	415 (188)	WS38	V48M22T45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	282B	703 (319)	WS39	V48M22T75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282B	935 (424)	WS19	V48M22T12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282B	1134 (515)	WS19	V48M22T49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	282B	1955 (888)	WS34	V48M22T22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	282B	2450 (1112)	WS37	V48M22T33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	291A	3547 (1610)	WS35	V48M22T55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	248 (113)	WS38	V48M22F15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	410 (186)	WS38	V48M22F30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	445 (202)	WS38	V48M22F45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	282B	750 (341)	WS39	V48M22F75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282B	963 (437)	WS19	V48M22F12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282B	1236 (561)	WS19	V48M22F49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	282B	2100 (953)	WS34	V48M22F22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	282B	2600 (1180)	WS37	V48M22F33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	291A	3700 (1680)	WS35	V48M22F55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	301 (137)	WS38	V48M22B15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	460 (209)	WS38	V48M22B30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	505 (229)	WS38	V48M22B45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282B	835 (379)	WS19	V48M22B75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282B	1050 (477)	WS19	V48M22B12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	282B	2250 (1022)	WS34	V48M22B49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	291A	2900 (1317)	WS37	V48M22B22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	291A	4000 (1816)	WS35	V48M22B33CUUE

Notes

① Lighting tap limited to 5% of nameplate full load capacity.

② Weight subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

480 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	257 (117)	WS38	V48M47T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	330 (150)	WS38	V48M47T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280B	430 (195)	WS38	V48M47T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280B	675 (306)	WS39	V48M47T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	900 (409)	WS19	V48M47T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280B	1126 (511)	WS19	V48M47T49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280B	2038 (925)	WS34	V48M47T22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	280B	2550 (1158)	WS37	V48M47T33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	275A	3412 (1549)	WS35	V48M47T55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	258 (117)	WS38	V48M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	401 (182)	WS38	V48M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280B	455 (207)	WS38	V48M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280B	678 (308)	WS39	V48M47F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	676 (307)	WS19	V48M47F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280B	1249 (567)	WS19	V48M47F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	280B	2107 (957)	WS34	V48M47F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280B	2418 (1098)	WS37	V48M47F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	275A	3800 (1725)	WS35	V48M47F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	369 (168)	WS38	V48M47B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	423 (192)	WS38	V48M47B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280B	552 (251)	WS38	V48M47B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	920 (418)	WS19	V48M47B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280B	1100 (499)	WS19	V48M47B12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280B	1702 (773)	WS34	V48M47B49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280B	2313 (1050)	WS37	V48M47B22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275A	3100 (1407)	WS35	V48M47B33CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

600 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	263 (119)	WS38	V60M28T15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	368 (167)	WS38	V60M28T30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	437 (198)	WS38	V60M28T45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280A	675 (307)	WS39	V60M28T75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	920 (418)	WS19	V60M28T12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	1117 (507)	WS19	V60M28T49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280A	1622 (737)	WS34	V60M28T22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	280A	2153 (977)	WS37	V60M28T33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	280A	3865 (1755)	WS35	V60M28T55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	269 (122)	WS38	V60M28F15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	354 (161)	WS38	V60M28F30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	468 (213)	WS38	V60M28F45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280A	695 (316)	WS39	V60M28F75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	960 (436)	WS19	V60M28F12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	1189 (540)	WS19	V60M28F49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	280A	2138 (971)	WS34	V60M28F22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280A	2441 (1108)	WS37	V60M28F33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	280A	3865 (1755)	WS35	V60M28F55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	367 (166)	WS38	V60M28B15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	431 (195)	WS38	V60M28B30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	529 (240)	WS38	V60M28B45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	859 (390)	WS19	V60M28B75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	1118 (508)	WS19	V60M28B12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280A	1481 (672)	WS34	V60M28B49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280A	2132 (968)	WS37	V60M28B22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	280A	3193 (1450)	WS35	V60M28B33CUUE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

600 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	263 (119)	WS38	V60M22T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	368 (167)	WS38	V60M22T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	282B	437 (198)	WS38	V60M22T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	282B	675 (307)	WS39	V60M22T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282B	920 (418)	WS19	V60M22T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	282B	1117 (507)	WS19	V60M22T49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	282B	1622 (737)	WS34	V60M22T22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	282B	2153 (977)	WS37	V60M22T33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	282B	3865 (1755)	WS35	V60M22T55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	269 (122)	WS38	V60M22F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	354 (161)	WS38	V60M22F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	282B	468 (213)	WS38	V60M22F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	282B	695 (316)	WS39	V60M22F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282B	960 (436)	WS19	V60M22F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	282B	1189 (540)	WS19	V60M22F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	282B	2138 (971)	WS34	V60M22F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	282B	2441 (1108)	WS37	V60M22F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	282B	3865 (1755)	WS35	V60M22F55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	367 (166)	WS38	V60M22B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	431 (195)	WS38	V60M22B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	282B	529 (240)	WS38	V60M22B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282B	859 (390)	WS19	V60M22B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	282B	1119 (508)	WS19	V60M22B12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	282B	1481 (672)	WS34	V60M22B49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	282B	2132 (968)	WS37	V60M22B22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	282B	3193 (1450)	WS35	V60M22B33CUEE

Notes

① Lighting tap limited to 5% of nameplate full load capacity.

② Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

600 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	283 (128)	WS38	V60M47T15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	363 (165)	WS38	V60M47T30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	280A	473 (215)	WS38	V60M47T45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	280A	743 (337)	WS39	V60M47T75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	990 (449)	WS19	V60M47T12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	280A	1239 (562)	WS19	V60M47T49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	280A	2242 (1018)	WS34	V60M47T22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	280A	2805 (1273)	WS37	V60M47T33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	275C	3753 (1704)	WS35	V60M47T55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	284 (129)	WS38	V60M47F15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	441 (200)	WS38	V60M47F30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	280A	501 (227)	WS38	V60M47F45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	280A	746 (339)	WS39	V60M47F75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	744 (338)	WS19	V60M47F12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	280A	1374 (624)	WS19	V60M47F49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	280A	2318 (1052)	WS34	V60M47F22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	280A	2660 (1208)	WS37	V60M47F33CUUE
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	275C	4180 (1898)	WS35	V60M47F55CUUE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	406 (184)	WS38	V60M47B15CUUE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	465 (211)	WS38	V60M47B30CUUE
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	280A	607 (276)	WS38	V60M47B45CUUE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	1012 (459)	WS19	V60M47B75CUUE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	280A	1210 (549)	WS19	V60M47B12CUUE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	280A	1872 (850)	WS34	V60M47B49CUUE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	280A	2544 (1155)	WS37	V60M47B22CUUE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	275C	3410 (1548)	WS35	V60M47B33CUUE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

2

208 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283A	220 (100)	WS38	V29M28E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283A	289 (131)	WS38	V29M28E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283A	365 (166)	WS38	V29M28E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283A	570 (259)	WS39	V29M28E75EE
112.5	1 at +5%	2 at -5%	DT-3	150	916A	287A	930 (422)	WS19	V29M28E12EE
150	1 at +5%	2 at -5%	DT-3	150	916A	287A	1013 (460)	WS19	V29M28E49EE
225	1 at +5%	2 at -5%	DT-3	150	918A	287A	1639 (744)	WS34	V29M28E22EE
300	1 at +5%	2 at -5%	DT-3	150	919E	287A	1697 (770)	WS35	V29M28E33EE
500	1 at +5%	2 at -5%	DT-3	150	920E	287A	2690 (1221)	WS35	V29M28E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283A	240 (109)	WS38	V29M28F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283A	365 (166)	WS38	V29M28F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283A	401 (182)	WS38	V29M28F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283A	606 (275)	WS39	V29M28F75EEES
112.5	1 at +5%	2 at -5%	DT-3	115	916A	287A	960 (436)	WS19	V29M28F12EEES
150	1 at +5%	2 at -5%	DT-3	115	916A	287A	1060 (481)	WS19	V29M28F49EEES
225	1 at +5%	2 at -5%	DT-3	115	918A	287A	1500 (681)	WS34	V29M28F22EEES
300	1 at +5%	2 at -5%	DT-3	115	919E	287A	1800 (817)	WS35	V29M28F33EEES
500	1 at +5%	2 at -5%	DT-3	115	920E	287A	2900 (1317)	WS35	V29M28F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283A	280 (127)	WS38	V29M28B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283A	370 (168)	WS38	V29M28B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283A	563 (256)	WS39	V29M28B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283A	965 (438)	WS19	V29M28B75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283A	950 (431)	WS19	V29M28B12EEES
150	1 at +5%	2 at -5%	DT-3	80	918A	287A	1430 (649)	WS34	V29M28B49EEES
225	1 at +5%	2 at -5%	DT-3	80	919E	287A	1750 (795)	WS35	V29M28B22EEES
300	1 at +5%	2 at -5%	DT-3	80	920E	287A	2400 (1090)	WS35	V29M28B33EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

208 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345A	196 (89)	WS38	V29M47E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345A	296 (134)	WS38	V29M47E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345A	410 (186)	WS38	V29M47E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	345A	590 (268)	WS39	V29M47E75EE
112.5	1 at +5%	2 at -5%	DT-3	150	916A	315A	784 (356)	WS19	V29R47E12EE
150	1 at +5%	2 at -5%	DT-3	150	916A	315A	931 (423)	WS19	V29R47E49EE
225	1 at +5%	2 at -5%	DT-3	150	918A	315A	1550 (704)	WS34	V29R47E22EE
300	1 at +5%	2 at -5%	DT-3	150	919E	315A	2274 (1032)	WS35	V29R47E33EE
500	1 at +5%	2 at -5%	DT-3	150	919E	315A	2869 (1303)	WS35	V29R47E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345A	215 (98)	WS38	V29M47F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345A	380 (173)	WS38	V29M47F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345A	400 (182)	WS38	V29M47F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	345A	585 (266)	WS39	V29M47F75EEES
112.5	1 at +5%	2 at -5%	DT-3	115	916A	315A	800 (363)	WS19	V29R47F12EEES
150	1 at +5%	2 at -5%	DT-3	115	916A	315A	950 (431)	WS19	V29R47F49EEES
225	1 at +5%	2 at -5%	DT-3	115	918A	315A	1591 (722)	WS34	V29R47F22EEES
300	1 at +5%	2 at -5%	DT-3	115	919E	315A	2320 (1053)	WS35	V29R47F33EEES
500	1 at +5%	2 at -5%	DT-3	115	919E	315A	2950 (1339)	WS35	V29R47F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345A	300 (136)	WS38	V29M47B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345A	390 (177)	WS38	V29M47B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	345A	550 (250)	WS39	V29M47B45EEES
75	1 at +5%	2 at -5%	DT-3	80	916A	315A	757 (344)	WS19	V29R47B75EEES
112.5	1 at +5%	2 at -5%	DT-3	80	916A	315A	930 (422)	WS19	V29R47B12EEES
150	1 at +5%	2 at -5%	DT-3	80	918A	315A	1550 (704)	WS34	V29R47B49EEES
225	1 at +5%	2 at -5%	DT-3	80	919E	315A	2275 (1033)	WS35	V29R47B22EEES
300	1 at +5%	2 at -5%	DT-3	80	920E	315A	2870 (1303)	WS35	V29R47B33EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

2

240 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283G	206 (94)	WS38	V24M28E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283G	297 (135)	WS38	V24M28E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283G	332 (151)	WS38	V24M28E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283G	562 (255)	WS39	V24M28E75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283G	760 (345)	WS19	V24M28E12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283G	974 (442)	WS19	V24M28E49EE
225	1 at +5%	2 at -5%	DT-3	150	917	287B	1460 (663)	WS34	V24R28E22EE
300	1 at +5%	2 at -5%	DT-3	150	918A	287B	1652 (750)	WS34	V24R28E33EE
500	1 at +5%	2 at -5%	DT-3	150	919E	287B	2690 (1221)	WS35	V24R28E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283G	240 (109)	WS38	V24M28F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283G	389 (177)	WS38	V24M28F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283G	396 (180)	WS38	V24M28F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283G	593 (269)	WS39	V24M28F75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283G	941 (427)	WS19	V24M28F12EEES
150	1 at +5%	2 at -5%	DT-3	115	916A	287B	1060 (481)	WS19	V24R28F49EEES
225	1 at +5%	2 at -5%	DT-3	115	917	287B	1500 (681)	WS34	V24R28F22EEES
300	1 at +5%	2 at -5%	DT-3	115	918A	287B	1800 (817)	WS34	V24R28F33EEES
500	1 at +5%	2 at -5%	DT-3	115	919E	287B	2900 (1317)	WS35	V24R28F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283G	280 (127)	WS38	V24M28B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283G	350 (159)	WS38	V24M28B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283G	560 (254)	WS39	V24M28B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283G	883 (401)	WS19	V24M28B75EEES
112.5	1 at +5%	2 at -5%	DT-3	80	916A	287B	950 (431)	WS19	V24R28B12EEES
150	1 at +5%	2 at -5%	DT-3	80	917	287B	1430 (649)	WS34	V24R28B49EEES
225	1 at +5%	2 at -5%	DT-3	80	918A	287B	1750 (795)	WS34	V24R28B22EEES
300	1 at +5%	2 at -5%	DT-3	80	919E	287B	2400 (1090)	WS35	V24R28B33EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

240 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345C	227 (103)	WS38	V24M47E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345C	312 (142)	WS38	V24M47E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345C	380 (173)	WS38	V24M47E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	345C	573 (260)	WS39	V24M47E75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	345C	800 (363)	WS19	V24M47E12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	345C	885 (402)	WS19	V24M47E49EE
225	1 at +5%	2 at -5%	DT-3	150	918A	—	1612 (732)	WS34	V24R47E22EE
300	1 at +5%	2 at -5%	DT-3	150	919E	—	1652 (750)	WS35	V24R47E33EE
500	1 at +5%	2 at -5%	DT-3	150	919E	—	2695 (1224)	WS35	V24R47E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345C	240 (109)	WS38	V24M47F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345C	389 (177)	WS38	V24M47F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345C	396 (180)	WS38	V24M47F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	345C	593 (269)	WS39	V24M47F75EEES
112.5	1 at +5%	2 at -5%	DT-3	115	916A	—	941 (427)	WS19	V24R47F12EEES
150	1 at +5%	2 at -5%	DT-3	115	916A	—	1060 (481)	WS19	V24R47F49EEES
225	1 at +5%	2 at -5%	DT-3	115	918A	—	1500 (681)	WS34	V24R47F22EEES
300	1 at +5%	2 at -5%	DT-3	115	919E	—	1800 (817)	WS35	V24R47F33EEES
500	1 at +5%	2 at -5%	DT-3	115	919E	—	2900 (1317)	WS35	V24R47F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345C	280 (127)	WS38	V24M47B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345C	350 (159)	WS38	V24M47B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	345C	560 (254)	WS39	V24M47B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	345C	883 (401)	WS19	V24M47B75EEES
112.5	1 at +5%	2 at -5%	DT-3	80	916A	—	950 (431)	WS19	V24R47B12EEES
150	1 at +5%	2 at -5%	DT-3	80	918A	—	1430 (649)	WS34	V24R47B49EEES
225	1 at +5%	2 at -5%	DT-3	80	919E	—	1750 (795)	WS35	V24R47B22EEES
300	1 at +5%	2 at -5%	DT-3	80	919E	—	2400 (1090)	WS35	V24R47B33EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

2

440 Delta Volts to 220Y/127 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283Q	213 (97)	WS38	V44M31E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283Q	300 (136)	WS38	V44M31E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283Q	348 (158)	WS38	V44M31E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283Q	583 (265)	WS39	V44M31E75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283Q	807 (366)	WS19	V44M31E12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283Q	950 (431)	WS19	V44M31E49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	283Q	1364 (619)	WS34	V44M31E22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	918A	283Q	1719 (780)	WS34	V44M31E33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	283Q	2560 (1162)	WS35	V44M31E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283Q	204 (93)	WS38	V44M31F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283Q	326 (148)	WS38	V44M31F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283Q	419 (190)	WS38	V44M31F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283Q	560 (254)	WS39	V44M31F75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283Q	805 (365)	WS19	V44M31F12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283Q	1012 (459)	WS19	V44M31F49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	283Q	1589 (721)	WS34	V44M31F22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	283Q	1782 (809)	WS37	V44M31F33EEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	283Q	3117 (1415)	WS35	V44M31F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283Q	294 (133)	WS38	V44M31B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283Q	374 (170)	WS38	V44M31B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283Q	586 (266)	WS39	V44M31B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283Q	807 (366)	WS19	V44M31B75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283Q	1005 (456)	WS19	V44M31B12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	283Q	1170 (531)	WS34	V44M31B49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	283Q	1764 (801)	WS37	V44M31B22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	283Q	2317 (1052)	WS35	V44M31B33EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	213 (97)	WS38	V48M28E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	300 (136)	WS38	V48M28E30EE
37.5	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	345 (157)	WS38	V48M28E37EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	348 (158)	WS38	V48M28E45EE
50	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	550 (250)	WS39	V48M28E50EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	583 (265)	WS39	V48M28E75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	807 (366)	WS19	V48M28E12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	950 (431)	WS19	V48M28E49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	928	658B	1371 (622)	WS41	V48M28E22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	929	658B	1719 (780)	WS42	V48M28E33EE
500	2 at +2.5%	2 at -2.5%	DT-3	150	924	487A	2560 (1162)	WS40	V48D28E55EE
750	2 at +2.5%	4 at -2.5%	DT-3	150	920E	292A	3370 (1530)	WS35	V48M28E77EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	204 (93)	WS38	V48M28F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	326 (148)	WS38	V48M28F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	419 (190)	WS38	V48M28F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	560 (254)	WS39	V48M28F75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	805 (365)	WS19	V48M28F12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	1012 (459)	WS19	V48M28F49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	283B	1589 (721)	WS34	V48M28F22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	283B	1782 (809)	WS37	V48M28F33EEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	292A	3117 (1415)	WS35	V48M28F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	294 (133)	WS38	V48M28B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	374 (170)	WS38	V48M28B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	586 (266)	WS39	V48M28B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	807 (366)	WS19	V48M28B75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	1005 (456)	WS19	V48M28B12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1170 (531)	WS34	V48M28B49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	283B	1764 (801)	WS37	V48M28B22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	2317 (1052)	WS35	V48M28B33EEES
500	2 at +2.5%	4 at -2.5%	DT-3	80	920E	292A	3379 (1534)	WS35	V48M28B55EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

2

480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	284B	220 (100)	WS38	V48M22E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	284B	293 (133)	WS38	V48M22E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	284B	348 (158)	WS38	V48M22E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	284B	554 (252)	WS39	V48M22E75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	284B	820 (372)	WS19	V48M22E12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	284B	940 (427)	WS19	V48M22E49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	284B	1421 (645)	WS34	V48M22E22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	284B	1787 (811)	WS37	V48M22E33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	293A	2504 (1137)	WS35	V48M22E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	284B	231 (105)	WS38	V48M22F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	284B	326 (148)	WS38	V48M22F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	284B	397 (180)	WS38	V48M22F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	284B	615 (279)	WS39	V48M22F75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	284B	805 (365)	WS19	V48M22F12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	284B	1012 (459)	WS19	V48M22F49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	284B	1589 (721)	WS34	V48M22F22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	284B	1782 (809)	WS37	V48M22F33EEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	293A	3117 (1415)	WS35	V48M22F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	284B	294 (133)	WS38	V48M22B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	284B	374 (170)	WS38	V48M22B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	284B	586 (266)	WS39	V48M22B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	284B	807 (366)	WS19	V48M22B75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	284B	1005 (456)	WS19	V48M22B12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	284B	1170 (531)	WS34	V48M22B49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	284B	1764 (801)	WS37	V48M22B22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	293A	2317 (1052)	WS35	V48M22B33EEES

Notes

① Lighting tap limited to 5% of nameplate full load capacity.

② Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Aluminum Windings

480 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	220 (100)	WS38	V48M47E15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	293 (133)	WS38	V48M47E30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	398 (181)	WS38	V48M47E45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	554 (252)	WS39	V48M47E75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	820 (372)	WS19	V48M47E12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	940 (427)	WS19	V48M47E49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1421 (645)	WS34	V48M47E22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	283B	1735 (788)	WS34	V48M47E33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	2504 (1137)	WS35	V48M47E55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	231 (105)	WS38	V48M47F15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	326 (148)	WS38	V48M47F30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	397 (180)	WS38	V48M47F45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	615 (279)	WS39	V48M47F75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	805 (365)	WS19	V48M47F12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	1012 (459)	WS19	V48M47F49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	283B	1589 (721)	WS34	V48M47F22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	283B	1782 (809)	WS37	V48M47F33EEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	292A	3117 (1415)	WS35	V48M47F55EEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	294 (133)	WS38	V48M47B15EEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	374 (170)	WS38	V48M47B30EEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	586 (266)	WS39	V48M47B45EEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	807 (366)	WS19	V48M47B75EEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	1005 (456)	WS19	V48M47B12EEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1170 (531)	WS34	V48M47B49EEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	283B	1764 (801)	WS37	V48M47B22EEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	2317 (1052)	WS35	V48M47B33EEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

2

208 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283A	262 (119)	WS38	V29M28E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283A	351 (159)	WS38	V29M28E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283A	453 (206)	WS38	V29M28E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283A	526 (239)	WS39	V29M28E75CUEE
112.5	1 at +5%	2 at -5%	DT-3	150	916A	287A	930 (422)	WS19	V29R28E12CUEE
150	1 at +5%	2 at -5%	DT-3	150	916A	287A	1242 (564)	WS19	V29R28E49CUEE
225	1 at +5%	2 at -5%	DT-3	150	917	287A	1900 (863)	WS34	V29R28E22CUEE
300	1 at +5%	2 at -5%	DT-3	150	918A	287A	2300 (1044)	WS34	V29R28E33CUEE
500	1 at +5%	2 at -5%	DT-3	150	919E	287A	3590 (1630)	WS35	V29R28E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283A	266 (121)	WS38	V29M28F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283A	476 (215)	WS38	V29M28F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283A	475 (216)	WS38	V29M28F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	287A	700 (318)	WS39	V29M28F75CUEEES
112.5	1 at +5%	2 at -5%	DT-3	115	916A	287A	935 (424)	WS19	V29R28F12CUEEES
150	1 at +5%	2 at -5%	DT-3	115	916A	287A	1274 (578)	WS19	V29R28F49CUEEES
225	1 at +5%	2 at -5%	DT-3	115	917	287A	1743 (791)	WS34	V29R28F22CUEEES
300	1 at +5%	2 at -5%	DT-3	115	919E	287A	2350 (1067)	WS35	V29R28F33CUEEES
500	1 at +5%	2 at -5%	DT-3	115	920E	287A	3690 (1675)	WS35	V29R28F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283A	381 (173)	WS38	V29M28B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283A	420 (191)	WS38	V29M28B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283A	510 (232)	WS38	V29M28B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283A	940 (427)	WS39	V29M28B75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283A	1300 (590)	WS19	V29M28B12CUEEES
150	1 at +5%	2 at -5%	DT-3	80	918A	287A	1800 (817)	WS34	V29R28B49CUEEES
225	1 at +5%	2 at -5%	DT-3	80	919E	287A	2400 (1090)	WS35	V29R28B22CUEEES
300	1 at +5%	2 at -5%	DT-3	80	920E	287A	3800 (1725)	WS35	V29R28B33CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

208 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345A	236 (107)	WS38	V29M47E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345A	351 (159)	WS38	V29M47E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345A	453 (206)	WS38	V29M47E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	345A	687 (312)	WS39	V29M47E75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	315A	930 (422)	WS19	V29R47E12CUEE
150	1 at +5%	2 at -5%	DT-3	150	916A	315A	1242 (564)	WS19	V29R47E49CUEE
225	1 at +5%	2 at -5%	DT-3	150	917	315A	1763 (800)	WS34	V29R47E22CUEE
300	1 at +5%	2 at -5%	DT-3	150	918A	315A	2300 (1044)	WS34	V29R47E33CUEE
500	1 at +5%	2 at -5%	DT-3	150	919E	315A	3590 (1630)	WS35	V29R47E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345A	265 (120)	WS38	V29M47F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345A	475 (215)	WS38	V29M47F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345A	475 (216)	WS38	V29M47F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	345A	768 (349)	WS39	V29M47F75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	345A	935 (424)	WS19	V29M47F12CUEEES
150	1 at +5%	2 at -5%	DT-3	115	916A	315A	1274 (578)	WS19	V29R47F49CUEEES
225	1 at +5%	2 at -5%	DT-3	115	917	315A	1743 (791)	WS34	V29R47F22CUEEES
300	1 at +5%	2 at -5%	DT-3	115	919E	315A	2350 (1067)	WS35	V29R47F33CUEEES
500	1 at +5%	2 at -5%	DT-3	115	920E	315A	3690 (1675)	WS35	V29R47F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345A	381 (173)	WS38	V29M47B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345A	420 (191)	WS38	V29M47B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345A	510 (232)	WS38	V29M47B45CUEEES
75	1 at +5%	2 at -5%	DT-3	80	914D	315A	940 (427)	WS39	V29R47B75CUEEES
112.5	1 at +5%	2 at -5%	DT-3	80	916A	315A	1300 (590)	WS19	V29R47B12CUEEES
150	1 at +5%	2 at -5%	DT-3	80	918A	315A	1800 (817)	WS34	V29R47B49CUEEES
225	1 at +5%	2 at -5%	DT-3	80	919E	315A	2400 (1090)	WS35	V29R47B22CUEEES
300	1 at +5%	2 at -5%	DT-3	80	920E	315A	3800 (1725)	WS35	V29R47B33CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

2

240 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283G	262 (119)	WS38	V24M28E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283G	351 (159)	WS38	V24M28E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283G	453 (206)	WS38	V24M28E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283G	526 (239)	WS39	V24M28E75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283G	930 (422)	WS19	V24M28E12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283G	1242 (564)	WS19	V24M28E49CUEE
225	1 at +5%	2 at -5%	DT-3	150	917	287B	1900 (863)	WS34	V24R28E22CUEE
300	1 at +5%	2 at -5%	DT-3	150	918A	287B	2300 (1044)	WS34	V24R28E33CUEE
500	1 at +5%	2 at -5%	DT-3	150	919E	287B	3590 (1630)	WS35	V24R28E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283G	266 (121)	WS38	V24M28F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283G	475 (215)	WS38	V24M28F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283G	475 (216)	WS38	V24M28F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283G	700 (318)	WS39	V24M28F75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283G	935 (424)	WS19	V24M28F12CUEEES
150	1 at +5%	2 at -5%	DT-3	115	916A	287B	1274 (578)	WS19	V24R28F49CUEEES
225	1 at +5%	2 at -5%	DT-3	115	917	287B	1743 (791)	WS34	V24R28F22CUEEES
300	1 at +5%	2 at -5%	DT-3	115	918A	287B	2350 (1067)	WS34	V24R28F33CUEEES
500	1 at +5%	2 at -5%	DT-3	115	919E	287B	3690 (1675)	WS35	V24R28F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283G	381 (173)	WS38	V24M28B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283G	420 (191)	WS38	V24M28B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283G	510 (232)	WS39	V24M28B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283G	940 (427)	WS19	V24M28B75CUEEES
112.5	1 at +5%	2 at -5%	DT-3	80	916A	287B	1300 (590)	WS19	V24R28B12CUEEES
150	1 at +5%	2 at -5%	DT-3	80	917	287B	1800 (817)	WS34	V24R28B49CUEEES
225	1 at +5%	2 at -5%	DT-3	80	918A	287B	2400 (1090)	WS34	V24R28B22CUEEES
300	1 at +5%	2 at -5%	DT-3	80	919E	287B	3800 (1725)	WS35	V24R28B33CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

240 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345C	262 (119)	WS38	V24M47E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345C	351 (159)	WS38	V24M47E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	345C	453 (206)	WS38	V24M47E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	345C	526 (239)	WS39	V24M47E75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	345C	930 (422)	WS19	V24M47E12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	345C	1242 (564)	WS19	V24M47E49CUEE
225	1 at +5%	2 at -5%	DT-3	150	918A	—	1900 (863)	WS34	V24R47E22CUEE
300	1 at +5%	2 at -5%	DT-3	150	919E	—	2300 (1044)	WS35	V24R47E33CUEE
500	1 at +5%	2 at -5%	DT-3	150	919E	—	3590 (1630)	WS35	V24R47E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345C	266 (121)	WS38	V24M47F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345C	475 (215)	WS38	V24M47F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	345C	475 (216)	WS38	V24M47F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	345C	700 (318)	WS39	V24M47F75CUEEES
112.5	1 at +5%	2 at -5%	DT-3	115	916A	—	935 (424)	WS19	V24R47F12CUEEES
150	1 at +5%	2 at -5%	DT-3	115	916A	—	1274 (578)	WS19	V24R47F49CUEEES
225	1 at +5%	2 at -5%	DT-3	115	918A	—	1743 (791)	WS34	V24R47F22CUEEES
300	1 at +5%	2 at -5%	DT-3	115	919E	—	2350 (1067)	WS35	V24R47F33CUEEES
500	1 at +5%	2 at -5%	DT-3	115	919E	—	3690 (1675)	WS35	V24R47F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345C	381 (173)	WS38	V24M47B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	345C	420 (191)	WS38	V24M47B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	345C	510 (232)	WS39	V24M47B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	345C	940 (427)	WS19	V24M47B75CUEEES
112.5	1 at +5%	2 at -5%	DT-3	80	916A	—	1300 (590)	WS19	V24R47B12CUEEES
150	1 at +5%	2 at -5%	DT-3	80	918A	—	1800 (817)	WS34	V24R47B49CUEEES
225	1 at +5%	2 at -5%	DT-3	80	919E	—	2400 (1090)	WS35	V24R47B22CUEEES
300	1 at +5%	2 at -5%	DT-3	80	919E	—	3800 (1725)	WS35	V24R47B33CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

2

440 Delta Volts to 220Y/127 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283Q	251 (114)	WS38	V44M31E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283Q	353 (160)	WS38	V44M31E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283Q	421 (191)	WS38	V44M31E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283Q	648 (294)	WS39	V44M31E75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283Q	910 (413)	WS19	V44M31E12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283Q	1052 (478)	WS19	V44M31E49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	283Q	1548 (703)	WS34	V44M31E22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	283Q	2029 (921)	WS37	V44M31E33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	283Q	3680 (1671)	WS35	V44M31E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283Q	239 (109)	WS38	V44M31F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283Q	363 (165)	WS38	V44M31F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283Q	442 (201)	WS38	V44M31F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283Q	676 (307)	WS39	V44M31F75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283Q	926 (420)	WS19	V44M31F12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283Q	1246 (566)	WS19	V44M31F49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	283Q	1692 (768)	WS34	V44M31F22CUEEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	923	283Q	2325 (1056)	WS37	V44M31F33CUEEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	283Q	3646 (1655)	WS35	V44M31F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283Q	331 (150)	WS38	V44M31B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283Q	390 (177)	WS38	V44M31B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283Q	545 (247)	WS38	V44M31B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283Q	956 (434)	WS19	V44M31B75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283Q	1045 (474)	WS19	V44M31B12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	283Q	1425 (647)	WS34	V44M31B49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	283Q	2082 (945)	WS37	V44M31B22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	283Q	3283 (1490)	WS35	V44M31B33CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	251 (114)	WS38	V48M28E15CUJEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	353 (160)	WS38	V48M28E30CUJEE
37.5	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	415 (188)	WS38	V48M28E37CUJEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	421 (191)	WS38	V48M28E45CUJEE
50	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	647 (294)	WS39	V48M28E50CUJEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	648 (294)	WS39	V48M28E75CUJEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	910 (413)	WS19	V48M28E12CUJEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	1052 (478)	WS19	V48M28E49CUJEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	928	658B	1548 (703)	WS41	V48M28E22CUJEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	929	658B	1622 (737)	WS42	V48M28E33CUJEE
500	2 at +2.5%	2 at -2.5%	DT-3	150	924	292A	3680 (1671)	WS40	V48D28E55CUJEE
750	2 at +2.5%	4 at -2.5%	DT-3	150	920E	292A	4890 (2220)	WS35	V48M28E77CUJEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	239 (109)	WS38	V48M28F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	363 (165)	WS38	V48M28F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	442 (201)	WS38	V48M28F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	676 (307)	WS39	V48M28F75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	926 (420)	WS19	V48M28F12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	1246 (566)	WS19	V48M28F49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	292A	1692 (768)	WS34	V48M28F22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	292A	2325 (1056)	WS37	V48M28F33CUEEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	3646 (1655)	WS35	V48M28F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	331 (150)	WS38	V48M28B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	390 (177)	WS38	V48M28B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	545 (248)	WS38	V48M28B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	956 (434)	WS19	V48M28B75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	1045 (474)	WS19	V48M28B12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	292A	1425 (647)	WS34	V48M28B49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	292A	2082 (945)	WS37	V48M28B22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	3283 (1490)	WS35	V48M28B33CUEEES
500	2 at +2.5%	4 at -2.5%	DT-3	80	920E	292A	4800 (2179)	WS35	V48M28B55CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

2

480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ^②	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	284B	253 (115)	WS38	V48M22E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	284B	352 (160)	WS38	V48M22E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	284B	415 (188)	WS38	V48M22E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	284B	703 (319)	WS39	V48M22E75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	284B	935 (424)	WS19	V48M22E12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	284B	1134 (515)	WS19	V48M22E49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	284B	1955 (888)	WS34	V48M22E22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	284B	2450 (1112)	WS37	V48M22E33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	293A	3547 (1610)	WS35	V48M22E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	284B	248 (113)	WS38	V48M22F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	284B	410 (186)	WS38	V48M22F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	284B	445 (202)	WS38	V48M22F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	284B	750 (341)	WS39	V48M22F75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	284B	963 (437)	WS19	V48M22F12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	916A	284B	1236 (561)	WS19	V48M22F49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	284B	2100 (953)	WS34	V48M22F22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	284B	2600 (1180)	WS37	V48M22F33CUEEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	293A	3700 (1680)	WS35	V48M22F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	284B	247 (113)	WS38	V48M22B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	284B	460 (209)	WS38	V48M22B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	284B	505 (229)	WS38	V48M22B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	284B	835 (379)	WS19	V48M22B75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	284B	1050 (477)	WS19	V48M22B12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	284B	2250 (1022)	WS34	V48M22B49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	284B	2900 (1317)	WS37	V48M22B22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	293A	4000 (1816)	WS35	V48M22B33CUEEES

Notes

① Lighting tap limited to 5% of nameplate full load capacity.

② Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Electrostatically Shielded—Copper Windings

480 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	340 (154)	WS38	V48M47E15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	340 (154)	WS38	V48M47E30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	430 (195)	WS38	V48M47E45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	677 (307)	WS39	V48M47E75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	900 (409)	WS19	V48M47E12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	1132 (514)	WS19	V48M47E49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1550 (704)	WS34	V48M47E22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	283B	2550 (1158)	WS37	V48M47E33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	3412 (1549)	WS35	V48M47E55CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	258 (117)	WS38	V48M47F15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	426 (193)	WS38	V48M47F30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	446 (202)	WS38	V48M47F45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	666 (302)	WS39	V48M47F75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	912 (414)	WS19	V48M47F12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1600 (726)	WS19	V48M47F49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	2107 (957)	WS34	V48M47F22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	283B	2418 (1098)	WS37	V48M47F33CUEEES
500	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	3800 (1725)	WS35	V48M47F55CUEEES
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	369 (168)	WS38	V48M47B15CUEEES
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	430 (195)	WS38	V48M47B30CUEEES
45	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	552 (251)	WS38	V48M47B45CUEEES
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	920 (418)	WS19	V48M47B75CUEEES
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	1210 (549)	WS19	V48M47B12CUEEES
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1702 (773)	WS34	V48M47B49CUEEES
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	283B	2313 (1050)	WS37	V48M47B22CUEEES
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	3100 (1407)	WS35	V48M47B22CUEEES

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

2

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton's ventilated transformers, Types DS-3 and DT-3, use a NEMA 2 rated (drip-proof) enclosure as standard, and are rated NEMA 3R with the addition of weathershields.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Encapsulated units have copper leads or stabs brought out for connections. Ventilating transformers have leads brought out to terminals that are pre-drilled to accept Cu/Al lugs. Aluminum-wound transformers have aluminum terminals; copper-wound models have copper terminals. **Lugs are not supplied with these transformers.** Eaton recommends external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), or 240 (series), or 240 with a 120 mid-point.

For additional information, please refer to Section 2.7 **Page V2-T2-189**.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation

will likely be higher (as much as 15 dB greater) due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

Average Sound Levels ①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Notes

① Currently being reviewed and revised by NEMA.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

K-Factor

Product Description

A common industry term for the amount of harmonics produced by a given load is the K-factor. The larger the K-factor, the more harmonics are present. Linear loads, for example, have a K-factor of 1. Transformers may carry a K-factor rating to define the transformer's ability to withstand the additional heating generated by harmonic currents.

Calculating the K-Factor

All nonlinear waveforms can be broken down mathematically into a fundamental frequency and its harmonics. IEEE C57.110 establishes a direct relationship between these harmonics and transformer heating. Underwriters Laboratories has established a similar relationship, the K-factor, which is derived by summing the square of the percentage current at a given harmonic level multiplied by the square of the harmonic order.

$$K = \sum (I_h)^2 (h)^2$$

I_h = Percent Current at Harmonic h

h = Harmonic Order, i.e., 3rd, 5th, 7th

For example, a load that is 90% of the fundamental, 30% of the third harmonic, and 20% of the fifth harmonic would yield $(.9)^2(1)^2 + (.3)^2(3)^2 + (.2)^2(5)^2$ or a K-factor of 2.62. This load would require an Eaton KT-4 transformer with a K-factor rating of 4.

Transformers that carry a K-factor rating define the

transformer's ability to withstand a given harmonic load while operating within the transformer's insulation class.

An analysis of harmonic loads and a calculation of the K-factor must be made to properly apply transformers in any building or facility. Note that the calculated K-factor is not constant because nonlinear loads change throughout the day as equipment and lighting is turned off and on. These harmonic loads also change over the life of the building or facility as equipment is added or removed.

Harmonic Currents

Harmonic currents are found in nonlinear loads. These currents are generated by various types of equipment including switching mode power supplies that abruptly switch current on and off during each line cycle. Switching mode power supplies or diode-capacitor power supplies convert AC line voltage to low voltage DC. This process is accomplished by charging capacitors during each line cycle with narrow pulses of current that are time-coincident with line voltage peaks. Examples of this equipment include electronic ballasts for fluorescent lighting, personal computers, printers, fax machines, electronic and medical test equipment, uninterruptible power supplies, and solid-state motor drives.

Note: Nonlinear is synonymous with the term non-sinusoidal.

Features, Benefits and Functions

- 600 volt class standard
- Three-phase, 480 delta–208Y/120 volt standard
- Single-phase, 240 x 480 volt–120/240 volt standard
- 150°C rise standard, 80°C and 115°C available
- Three-phase neutrals sized for 200% of rated current
- Electrostatic shield

Note: Electrostatic shields do not reduce harmonic levels. However, because of the nature of switching mode loads, these shields do reduce transient noise in the system, which may affect sensitive computer loads.

- Aluminum windings (copper optional)
- Class 220°C insulation
- Reduced core flux density

Note: Reduced core flux prevents the core from saturation and overheating due to voltage distortions caused by harmonic currents.

- Indoor enclosures (weathershields optional, for outdoor applications)
- Coils designed to minimize stray losses
- K4, K13 standard
- K9, K20, K30, K40, K50 optional
- Low sound level (–3 dB, –5 dB) available as options
- Available with NEMA TP-1 and ENERGY STAR efficiency levels

Standards and Certifications

- UL listed



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.

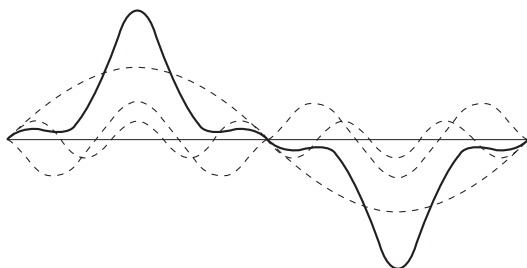
Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 Page V2-T2-185.

Harmonic Currents Found in Nonlinear Loads Cause Wave Shape Distortion and Create Added Stresses on Transformers



Product Selection

2

Single-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

K-4 240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	261A	222 (101)	WS11	HT20P11S15EE
25	②	②	DS-3	150	818	261A	360 (163)	WS11	HT20P11S25EE
37.5	②	②	DS-3	150	818	261A	365 (166)	WS11	HT20P11S37EE
50	②	②	DS-3	150	819	261A	560 (254)	WS16	HT20P11S50EE
75	②	②	DS-3	150	820	261A	688 (312)	WS16	HT20P11S75EE
15	②	②	DS-3	115	816	261A	229 (104)	WS11	HT20P11F15EE
25	②	②	DS-3	115	818	261A	365 (166)	WS11	HT20P11F25EE
37.5	②	②	DS-3	115	818	261A	380 (172)	WS11	HT20P11F37EE
50	②	②	DS-3	115	819	261A	580 (263)	WS16	HT20P11F50EE
75	②	②	DS-3	115	820	261A	700 (318)	WS16	HT20P11F75EE
15	②	②	DS-3	80	816	261A	—	WS11	HT20P11B15EE
25	②	②	DS-3	80	818	261A	—	WS11	HT20P11B25EE
37.5	②	②	DS-3	80	819	261A	—	WS16	HT20P11B37EE
50	②	②	DS-3	80	820	261A	—	WS16	HT20P11B50EE
75	②	②	DS-3	80	821	261A	976 (443)	WS13	HT20P11B75EE

K-13 240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	261A	247 (112)	WS11	NT20P11S15EE
25	②	②	DS-3	150	818	261A	370 (168)	WS11	NT20P11S25EE
37.5	②	②	DS-3	150	819	261A	580 (263)	WS16	NT20P11S37EE
50	②	②	DS-3	150	820	261A	700 (318)	WS16	NT20P11S50EE
75	②	②	DS-3	150	821	261A	924 (419)	WS13	NT20P11S75EE
15	②	②	DS-3	115	816	261A	260 (118)	WS11	NT20P11F15EE
25	②	②	DS-3	115	818	261A	380 (172)	WS11	NT20P11F25EE
37.5	②	②	DS-3	115	819	261A	590 (268)	WS16	NT20P11F37EE
50	②	②	DS-3	115	820	261A	700 (318)	WS16	NT20P11F50EE
75	②	②	DS-3	115	821	261A	970 (440)	WS13	NT20P11F75EE
15	②	②	DS-3	80	816	261A	—	WS11	NT20P11B15EE
25	②	②	DS-3	80	818	261A	—	WS11	NT20P11B25EE
37.5	②	②	DS-3	80	819	261A	—	WS16	NT20P11B37EE
50	②	②	DS-3	80	820	261A	—	WS16	NT20P11B50EE
75	②	②	DS-3	80	821	261A	—	WS13	NT20P11B75EE

Notes

① Weights subject to change.

② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on Page V2-T2-213.

Three-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings**K-4 480 Delta Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	206 (94)	WS38	H48M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	311 (141)	WS38	H48M28T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	400 (182)	WS38	H48M28T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	547 (248)	WS39	H48M28T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	800 (363)	WS19	H48M28T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	1010 (459)	WS19	H48M28T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	918A	283B	1680 (763)	WS34	H48M28T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	2122 (963)	WS35	H48M28T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	920E	292A	3201 (1453)	WS35	H48M28T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	307 (139)	WS38	H48M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	313 (142)	WS38	H48M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	400 (182)	WS38	H48M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	587 (266)	WS39	H48M28F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	947 (430)	WS19	H48M28F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1243 (564)	WS34	H48M28F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	283B	1680 (763)	WS34	H48M28F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	2480 (1126)	WS35	H48M28F33EE
500	2 at +2.5%	4 at -2.5%	DT-3	115	920E	292A	3280 (1489)	WS35	H48M28F55EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	378 (172)	WS38	H48M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	365 (166)	WS38	H48M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	550 (250)	WS39	H48M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	774 (351)	WS19	H48M28B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1380 (627)	WS34	H48M28B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	283B	1604 (728)	WS34	H48M28B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	2336 (1061)	WS35	H48M28B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	2689 (1221)	WS35	H48M28B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

2.1

Transformers

NEMA TP-1 Energy-Efficient Transformers

Three-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings

2

K-13 480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	271 (123)	WS38	N48M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	365 (166)	WS38	N48M28T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	545 (247)	WS39	N48M28T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	812 (369)	WS19	N48M28T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	920 (418)	WS19	N48M28T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1221 (554)	WS34	N48M28T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	923	283B	1960 (890)	WS37	N48M28T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	2358 (1071)	WS35	N48M28T33EE
500	2 at +2.5%	4 at -2.5%	DT-3	150	922	292A	4799 (2179)	WS36	N48M28T55EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	332 (151)	WS38	N48M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	390 (177)	WS38	N48M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	548 (249)	WS39	N48M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	808 (367)	WS19	N48M28F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	990 (449)	WS19	N48M28F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	292A	1769 (803)	WS34	N48M28F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	2306 (1047)	WS35	N48M28F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	3291 (1494)	WS35	N48M28F33EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	315 (143)	WS38	N48M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	408 (185)	WS38	N48M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	555 (252)	WS39	N48M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	838 (380)	WS19	N48M28B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1367 (621)	WS34	N48M28B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	292A	1607 (730)	WS34	N48M28B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	2582 (1172)	WS35	N48M28B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	920E	292A	3228 (1466)	WS35	N48M28B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Aluminum Windings**K-20 480 Delta Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	295 (134)	WS38	G48M28T15EE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	367 (167)	WS38	G48M28T30EE
45	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	563 (256)	WS39	G48M28T45EE
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	808 (367)	WS19	G48M28T75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1379 (626)	WS34	G48M28T12EE
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	292A	1559 (708)	WS34	G48M28T49EE
225	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	2600 (1180)	WS35	G48M28T22EE
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	2968 (1347)	WS35	G48M28T33EE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	300 (136)	WS38	G48M28F15EE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	403 (183)	WS38	G48M28F30EE
45	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	574 (261)	WS39	G48M28F45EE
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	911 (414)	WS19	G48M28F75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1379 (626)	WS34	G48M28F12EE
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	292A	—	WS34	G48M28F49EE
225	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	—	WS35	G48M28F22EE
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	—	WS35	G48M28F33EE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	340 (154)	WS38	G48M28B15EE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	405 (184)	WS38	G48M28B30EE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	580 (263)	WS39	G48M28B45EE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	930 (422)	WS19	G48M28B75EE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1400 (636)	WS34	G48M28B12EE
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	292A	—	WS34	G48M28B49EE
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	—	WS35	G48M28B22EE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	—	WS35	G48M28B33EE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

2.1

Transformers

NEMA TP-1 Energy-Efficient Transformers

Single-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

K-4 240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	261A	280 (127)	WS11	HT20P11S15CUEE
25	②	②	DS-3	150	818	261A	431 (195)	WS11	HT20P11S25CUEE
37.5	②	②	DS-3	150	818	261A	437 (198)	WS11	HT20P11S37CUEE
50	②	②	DS-3	150	819	261A	686 (311)	WS16	HT20P11S50CUEE
75	②	②	DS-3	150	820	261A	—	WS16	HT20P11S75CUEE
15	②	②	DS-3	115	816	261A	276 (125)	WS11	HT20P11F15CUEE
25	②	②	DS-3	115	818	261A	435 (197)	WS11	HT20P11F25CUEE
37.5	②	②	DS-3	115	818	261A	440 (200)	WS11	HT20P11F37CUEE
50	②	②	DS-3	115	820	261A	700 (318)	WS16	HT20P11F50CUEE
75	②	②	DS-3	115	821	261A	—	WS13	HT20P11F75CUEE
15	②	②	DS-3	80	816	261A	—	WS11	HT20P11B15CUEE
25	②	②	DS-3	80	818	261A	—	WS11	HT20P11B25CUEE
37.5	②	②	DS-3	80	819	261A	—	WS16	HT20P11B37CUEE
50	②	②	DS-3	80	820	261A	—	WS16	HT20P11B50CUEE
75	②	②	DS-3	80	821	261A	—	WS13	HT20P11B75CUEE

K-13 240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3	150	816	261A	283 (128)	WS11	NT20P11S15CUEE
25	②	②	DS-3	150	818	261A	420 (191)	WS11	NT20P11S25CUEE
37.5	②	②	DS-3	150	818	261A	425 (193)	WS11	NT20P11S37CUEE
50	②	②	DS-3	150	820	261A	690 (313)	WS16	NT20P11S50CUEE
75	②	②	DS-3	150	821	261A	1056 (479)	WS13	NT20P11S75CUEE
15	②	②	DS-3	115	818	261A	411 (186)	WS11	NT20P11F15CUEE
25	②	②	DS-3	115	818	261A	427 (194)	WS11	NT20P11F25CUEE
37.5	②	②	DS-3	115	819	261A	435 (197)	WS16	NT20P11F37CUEE
50	②	②	DS-3	115	820	261A	710 (322)	WS16	NT20P11F50CUEE
75	②	②	DS-3	115	821	261A	1100 (499)	WS13	NT20P11F75CUEE
15	②	②	DS-3	80	818	261A	—	WS11	NT20P11B15CUEE
25	②	②	DS-3	80	818	261A	—	WS11	NT20P11B25CUEE
37.5	②	②	DS-3	80	819	261A	—	WS16	NT20P11B37CUEE
50	②	②	DS-3	80	820	261A	—	WS16	NT20P11B50CUEE
75	②	②	DS-3	80	821	261A	—	WS13	NT20P11B75CUEE

Notes

① Weights subject to change.

② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings**K-4 480 Delta Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	251 (114)	WS38	H48M28T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	326 (148)	WS38	H48M28T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	479 (217)	WS38	H48M28T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	463 (210)	WS39	H48M28T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	977 (444)	WS19	H48M28T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	1212 (550)	WS19	H48M28T49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	917	292A	1815 (824)	WS34	H48M28T22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	150	923	283B	2400 (1090)	WS37	H48M28T33CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	256 (116)	WS38	H48M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	341 (155)	WS38	H48M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	526 (239)	WS38	H48M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	759 (345)	WS39	H48M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	1030 (468)	WS19	H48M28F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1631 (740)	WS34	H48M28F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	292A	1965 (892)	WS34	H48M28F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	115	923	283B	2337 (1061)	WS37	H48M28F33CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	365 (166)	WS38	H48M28B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	424 (192)	WS38	H48M28B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	653 (296)	WS39	H48M28B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	640 (291)	WS19	H48M28B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	1264 (574)	WS19	H48M28B12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	80	917	292A	1685 (765)	WS34	H48M28B49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	80	923	292A	2096 (952)	WS37	H48M28B22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	4600 (2087)	WS35	H48M28B33CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

2.1

Transformers

NEMA TP-1 Energy-Efficient Transformers

Three-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings

2

K-13 480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	346 (157)	WS38	N48M28T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	390 (177)	WS38	N48M28T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	623 (283)	WS39	N48M28T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	848 (385)	WS19	N48M28T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	1080 (490)	WS19	N48M28T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	292A	1431 (650)	WS34	N48M28T49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	923	292A	2129 (967)	WS37	N48M28T22CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	341 (155)	WS38	N48M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	444 (202)	WS38	N48M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	598 (271)	WS39	N48M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	894 (406)	WS19	N48M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	1054 (479)	WS19	N48M28F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	115	917	292A	1399 (635)	WS34	N48M28F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	115	923	292A	2088 (948)	WS37	N48M28F22CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	370 (168)	WS38	N48M28B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	490 (222)	WS38	N48M28B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	635 (288)	WS39	N48M28B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	987 (448)	WS19	N48M28B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	854 (388)	WS19	N48M28B12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	283B	1134 (515)	WS34	N48M28B49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	80	919	292A	4091 (1857)	WS35	N48M28B22CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—K-Factor Rated 60 Hz NEMA TP-1 Energy-Efficient—Copper Windings**K-20 480 Delta Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	390 (177)	WS38	G48M28T15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	431 (196)	WS38	G48M28T30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	150	914D	283B	639 (290)	WS39	G48M28T45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	905 (411)	WS19	G48M28T75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	916A	283B	1060 (481)	WS19	G48M28T12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1808 (821)	WS34	G48M28T49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	150	923	283B	2386 (1083)	WS37	G48M28T22CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	400 (182)	WS38	G48M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	450 (204)	WS38	G48M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	115	914D	283B	690 (313)	WS39	G48M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	283B	1148 (521)	WS19	G48M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	—	WS34	G48M28F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	115	923	283B	—	WS37	G48M28F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	—	WS35	G48M28F22CUEE
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	400 (182)	WS38	G48M28B15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	441 (200)	WS38	G48M28B30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3	80	914D	283B	676 (307)	WS39	G48M28B45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	283B	1140 (518)	WS19	G48M28B75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	292A	—	WS34	G48M28B12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3	80	923	292A	2417 (1097)	WS37	G48M28B49CUEE

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

2

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour, and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton ventilated transformers, Type KT, use a NEMA 2 rated (drip-proof) enclosure as standard, and are rated NEMA 3R with the addition of weathershields.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Ventilating transformers have leads brought out to aluminum pads that are pre-drilled to accept Cu/Al lugs.

Lugs are not supplied with these transformers. Eaton recommends that external cables be rated 75°C for ventilated designs.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and

environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-192**.

Average Sound Levels ^①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Notes

^① Currently being reviewed and revised by NEMA.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

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NEMA Premium® Efficient Transformers

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.

Types DS-3, DT-3

- Ventilated, NEMA 2 enclosure standard
- Suitable for indoor applications, outdoors when weathershields are also installed
- Upright mounting only
- 220°C insulation system
- 150°C rise standard; 115°C or 80°C rise optional
- Available in single-phase ratings 15–167 kVA, 600 volts primary (DS-3)
- Available in three-phase ratings 15–1000 kVA and up to 600 volts primary (DT-3)

Application Description

NEMA Premium Efficient compliant energy-efficient transformers are specifically designed to meet the energy efficiency standards set forth in NEMA publication “NEMA Premium Efficiency Transformer Program Guidelines.” Surveys have shown that the average loading of low voltage dry-type distribution transformers, over a 24-hour period, is approximately 35%. NEMA Premium compliant transformers are optimized to offer maximum efficiency at 35% of nameplate rating.

The range of products covered by NEMA Premium Efficient are:

NEMA Premium Efficient Product Range

Rating	Voltage Class	Voltage
Dry-Type Rating	Single-phase	15–333 kVA
	Three-phase	15–1000 kVA

Transformers that are currently specifically excluded from the scope of NEMA Premium Program include:

- Liquid-filled transformers below 10 kVA
- Dry-type transformers below 15 kVA
- AC and DC drives transformers
- Rectifier transformers designed for high harmonics
- Autotransformers
- Non-distribution transformers, such as UPS transformers
- Special impedance or regulation transformers
- Regulating transformers
- Sealed and non-ventilated transformers
- Machine tool transformers
- Welding transformers
- Transformers with tap ranges greater than 15%
- Transformers with a frequency other than 60 Hz
- Grounding transformers
- Testing transformers

NEMA Premium Efficient Efficiency Levels

Tables of Energy Efficiency
NEMA Premium Efficiency Levels
Dry-Type Distribution Transformers—
Low Voltage (600V and below)

Single-Phase		Three-Phase	
kVA	Efficiency	kVA	Efficiency
15	98.39	15	97.90
25	98.60	30	98.25
37.5	98.74	45	98.39
50	98.81	75	98.60
75	98.95	112.5	98.74
100	99.02	150	98.81
167	99.09	225	98.95
250	99.16	300	99.02
333	99.23	500	99.09
—	—	750	99.16
—	—	1000	99.23

Features, Benefits and Functions

- 60 Hz operation (except as noted)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels
- Exceed federal energy efficiency requirements for low voltage dry-type distribution transformers effective as of January 1, 2007

Standards and Certifications

- UL listed

**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.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-185**.

Product Selection

Additional Product Selection information begins on **Page V2-T2-187**.

Three-Phase—Type DT-3 60 Hz NEMA Premium Efficient—Copper Windings**K-1 480 Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T22CUN3
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T33CUN3
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F22CUN3
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F33CUN3
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B22CUN3

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA Premium Efficient—Copper Windings

2

K-9 480 Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T22CUN3
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	B48M28T33CUN3
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F22CUN3
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	B48M28F33CUN3
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	B48M28B22CUN3

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA Premium Efficient—Copper Windings**K-13 480 Delta Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	283C	—	—	N48M28T15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	N48M28T30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	N48M28T45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	N48M28T75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	N48M28T12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	N48M28T49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	N48M28T22CUN3
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	292A	—	—	N48M28T33CUN3
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	283C	—	—	N48M28F15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	N48M28F30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	N48M28F45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	N48M28F75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	N48M28F12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	N48M28F49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	N48M28F22CUN3
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	292A	—	—	N48M28F33CUN3
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	N48M28B15CUN3
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	N48M28B30CUN3
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	N48M28B45CUN3
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	N48M28B75CUN3
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	N48M28B12CUN3
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	N48M28B49CUN3
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	292A	—	—	N48M28B22CUN3

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

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E3 Super Efficient Transformers

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.

Types DS-3, DT-3

- Ventilated, NEMA 2 enclosure standard
- Suitable for indoor applications, outdoors when weathershields are also installed
- Upright mounting only
- 220°C insulation system
- 150°C rise standard; 115°C or 80°C rise optional
- Available in single-phase ratings 15–167 kVA, 600 volts primary (DS-3)
- Available in three-phase ratings 15–1000 kVA and up to 600 volts primary (DT-3)

Application Description

E3 CSL3-2007

energy-efficient transformers are specifically designed to meet the energy efficiency guidelines as intended in the U.S. Department of Energy 10 CFR Parts 430 and 431, dated October 12, 2007. Surveys have shown that the average loading of low voltage dry-type distribution transformers, over a 24-hour period, is approximately 35%. E3 Efficient transformers are optimized to offer maximum efficiency at 35% of nameplate rating.

Additional clarifications regarding CSL3-2007 can be found in NEMA’s whitepaper “Clarifications on the Use of Department of Energy Design—Line 6, 7 and 8 transformers contained within 10 CFR 430 and 431.”

The range of products covered by E3 Efficient are:

E3 Efficient Product Range

Rating	Voltage Class	Voltage
Dry-Type Rating	Single-phase	15–333 kVA
	Three-phase	15–1000 kVA

Transformers that are excluded from the scope of E3 Efficient transformers include:

- Liquid-filled transformers below 10 kVA
- Dry-type transformers below 15 kVA
- AC and DC drives transformers
- Rectifier transformers designed for high harmonics
- Autotransformers
- Non-distribution transformers, such as UPS transformers
- Special impedance or regulation transformers
- Regulating transformers
- Sealed and non-ventilated transformers
- Machine tool transformers
- Welding transformers
- Transformers with tap ranges greater than 15%
- Transformers with a frequency other than 60 Hz
- Grounding transformers
- Testing transformers

E3 Efficient Efficiency Levels

**Tables of Energy Efficiency
E3 Efficiency Levels Dry-Type
Distribution Transformers—
Low Voltage (600V and below)**

Single-Phase		Three-Phase	
kVA	Efficiency	kVA	Efficiency
15	98.23	15	97.97
25	98.44	30	98.29
37.5	98.59	45	98.45
50	98.69	75	98.64
75	98.64	112.5	98.77
100	98.90	150	98.86
167	99.03	225	98.97
250	99.12	300	99.04
333	99.18	500	99.16
—	—	750	99.24
—	—	1000	99.29

Features, Benefits and Functions

- 60 Hz operation (except as noted)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels
- Meet or exceed federal energy efficiency requirements for low voltage dry-type distribution transformers as intended in U.S. DOE Document 10 CFR Parts 430 and 431, dated October 12, 2007.

Standards and Certifications

- UL listed

**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.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number SelectionPlease refer to Section 2.7 **Page V2-T2-185**.

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Product SelectionAdditional Product Selection information begins on **Page V2-T2-187**.**Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient—Copper Windings****K-1 480 Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T22CUE3
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	283B	—	—	V48M28T33CUE3
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F22CUE3
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	283B	—	—	V48M28F33CUE3
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	283B	—	—	V48M28B22CUE3

NoteFor other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient—Copper Windings**K-9 480 Volts to 208Y/120 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	330 (150)	WS38	B48M28T15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	400 (182)	WS38	B48M28T30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	283B	630 (286)	WS39	B48M28T45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	150	915D	283B	865 (393)	WS39	B48M28T75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1520 (690)	WS34	B48M28T12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1650 (749)	WS34	B48M28T49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	150	918A	283B	2090 (949)	WS34	B48M28T22CUE3
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	283B	3900 (1771)	WS35	B48M28T33CUE3
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	335 (152)	WS38	B48M28F15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	406 (184)	WS38	B48M28F30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	283B	635 (288)	WS39	B48M28F45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	115	915D	283B	870 (395)	WS39	B48M28F75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1526 (693)	WS34	B48M28F12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1665 (756)	WS34	B48M28F49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	283B	2094 (951)	WS34	B48M28F22CUE3
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	283B	3900 (1771)	WS35	B48M28F33CUE3
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	406 (184)	WS38	B48M28B15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	283B	635 (288)	WS39	B48M28B30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	283B	870 (395)	WS39	B48M28B45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1526 (693)	WS34	B48M28B75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1665 (756)	WS34	B48M28B12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	283B	2094 (951)	WS34	B48M28B49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	283B	3900 (1771)	WS35	B48M28B22CUE3

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient—Copper Windings

2

K-13 480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg) ①	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283C	325 (148)	WS38	N48M28T15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	283B	370 (168)	WS38	N48M28T30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	283B	635 (288)	WS39	N48M28T45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	150	915D	283B	870 (395)	WS39	N48M28T75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1526 (693)	WS34	N48M28T12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	150	917	283B	1665 (756)	WS34	N48M28T49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	150	918A	283B	2094 (951)	WS34	N48M28T22CUE3
300	2 at +2.5%	4 at -2.5%	DT-3	150	919E	292A	3900 (1771)	WS35	N48M28T33CUE3
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283C	325 (148)	WS38	N48M28F15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	283B	370 (168)	WS38	N48M28F30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	283B	635 (288)	WS39	N48M28F45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	115	915D	283B	870 (395)	WS39	N48M28F75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1526 (693)	WS34	N48M28F12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	115	917	283B	1665 (756)	WS34	N48M28F49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	115	918A	283B	2094 (951)	WS34	N48M28F22CUE3
300	2 at +2.5%	4 at -2.5%	DT-3	115	919E	292A	3900 (1771)	WS35	N48M28F33CUE3
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	283B	370 (168)	WS38	N48M28B15CUE3
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	283B	635 (288)	WS39	N48M28B30CUE3
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	283B	870 (395)	WS39	N48M28B45CUE3
75	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1526 (693)	WS34	N48M28B75CUE3
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	283B	1665 (756)	WS34	N48M28B12CUE3
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	283B	2094 (951)	WS34	N48M28B49CUE3
225	2 at +2.5%	4 at -2.5%	DT-3	80	919E	292A	3900 (1771)	WS35	N48M28B22CUE3

Notes

① Weights subject to change.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Harmonic Mitigating Transformer**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.

The electrical transformer has been a staple of electrical power systems for the past 100+ years. While the types of electrical loads that are being added to our systems today have radically changed, the transformer has stayed relatively the same in design during this time frame. Eaton's harmonic mitigating transformer (HMT) represents the evolution of the transformer into something that will best provide clean, energy-efficient electricity to power the loads of today and tomorrow. The recent shift of our electrical loads from predominately AC consumers (resistive heating elements, incandescent lighting, three-phase motor load) to DC consumers (such as computers, fax machines,

printers, down to the "wall-wart" that recharges the cell phone) requires that our electrical infrastructure changes as well. These new loads now introduce other currents and frequencies into our electrical power systems—commonly known as "harmonics." Harmonic currents can cause additional heating, which may cause transformers, generators and conductors to become overloaded. Excessive heat is one of the major reasons that standard transformers and conductors fail prematurely. These harmonic currents have various other effects (such as "loss of ride-through capability," reduced lifespan and mysterious misoperation of equipment) on the components and loads of an electrical distribution system. Eaton's HMTs, when used properly within an electrical system, will help keep the loads operating the way the manufacturer designed them and keep the facility's electrical system free from voltage distortion.

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Three-Phase, Type DT-3 HMT, 60 Hz

- Harmonic mitigating (cancellation) transformers are a cost-effective means of treating harmful harmonics in an electrical distribution system
- Reducing harmonic content in electrical systems can result in a more reliable electrical system, lower maintenance costs, less downtime, fewer equipment malfunctions, and lower cooling system capacity
- Available in a variety of phase-shift configurations that allow flexibility to target specific families of harmonics
- Harmonic treatment via electromagnetic flux cancellation
- May be installed as a stand-alone transformer, or included in IFS™
- Available in three-phase ratings, 15–500 kVA, up to 600 volts primary

Features and Benefits

- 480 volt to 208/120 volt standard. Additional voltage combinations available
- 150°C, 115°C or 80°C temperature rise available
- Copper windings and terminals standard; aluminum available
- Meet or exceed NEMA TP-1 energy-efficiency level
- 200% rated neutral
- Single electrostatic shield for attenuation of common mode and transverse mode noise
- Approximately 98% efficient when operated in systems with 100% nonlinear load profiles
- 220°C insulation system
- Third-party tested for harmonic performance and energy efficiency
- Meet NEMA ST-20 sound standards
- Eliminate circulating harmonic currents in primary windings of transformers
- Enclosures are NEMA 2 drip-proof. The addition of optional weather-shields makes the enclosure NEMA 3R rainproof
- Harmonic cancellation via electromagnetic flux cancellation. Filters, capacitors or other such devices are not used
- Help meet IEEE 519 harmonic limits

Standards and Certifications

- UL listed



Industry Standards

All Eaton dry-type transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE standards. Harmonic mitigating transformers are UL listed.

IEEE 519-1992

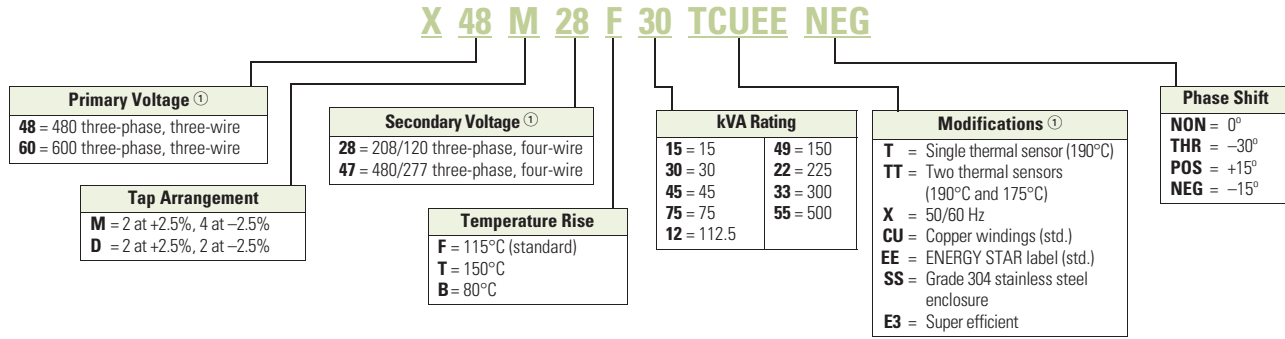
Proper use of Eaton’s harmonic mitigating transformers within your electrical system will help you to meet the harmonic distortion limits as proposed by IEEE 519-1992, “IEEE Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems.”

Seismic Qualified

Eaton dry-type distribution transformers are seismically qualified and exceed the requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Energy-Efficient Harmonic Mitigating Transformers



NEMA TP-1-2002 Efficiency Levels

Tables of Energy Efficiency
NEMA Class 1 Efficiency Levels
Dry-Type Distribution Transformers—
Low Voltage (600V and below)

Three-Phase	
kVA	Efficiency
15	97.0
30	97.5
45	97.7
75	98.0
112.5	98.2
150	98.3
225	98.5
300	98.6
500	98.7
750	98.8
1000	98.9

E3 Efficient Efficiency Levels

Tables of Energy Efficiency
E3 Efficiency Levels Dry-Type
Distribution Transformers—
Low Voltage (600V and below)

Three-Phase	
kVA	Efficiency
15	97.97
30	98.29
45	98.45
75	98.64
112.5	98.77
150	98.86
225	98.97
300	99.04
500	99.16
750	99.24
1000	99.29

Note

① The most common ratings are shown. Contact Eaton for availability of additional ratings.

Product Selection

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating

480 Volts to 208Y/120 Volts—Aluminum Windings—Type NON 0-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	290 (132)	WS38	X48M28T15EENON
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	365 (166)	WS38	X48M28T30EENON
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	560 (254)	WS39	X48M28T45EENON
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	800 (363)	WS19	X48M28T75EENON
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1380 (627)	WS34	X48M28T12EENON
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1560 (708)	WS34	X48M28T49EENON
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2400 (1090)	WS35	X48M28T22EENON
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2970 (1348)	WS35	X48M28T33EENON
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	360 (163)	WS38	X48M28F15EENON
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	405 (184)	WS38	X48M28F30EENON
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	575 (261)	WS39	X48M28F45EENON
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	900 (409)	WS19	X48M28F75EENON
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1380 (627)	WS34	X48M28F12EENON
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	1600 (726)	WS34	X48M28F49EENON
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	2600 (1180)	WS35	X48M28F22EENON
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3100 (1407)	WS35	X48M28F33EENON
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	380 (173)	WS38	X48M28B15EENON
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	560 (254)	WS39	X48M28B30EENON
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	800 (363)	WS39	X48M28B45EENON
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	1380 (627)	WS19	X48M28B75EENON
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1560 (708)	WS34	X48M28B12EENON
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	2400 (1090)	WS34	X48M28B49EENON
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	2970 (1348)	WS35	X48M28B22EENON
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B33EENON

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type NON 0-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	335 (152)	WS38	X48M28T15CUEENON
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	430 (195)	WS38	X48M28T30CUEENON
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	627 (285)	WS39	X48M28T45CUEENON
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	926 (420)	WS19	X48M28T75CUEENON
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1610 (731)	WS34	X48M28T12CUEENON
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1800 (817)	WS34	X48M28T49CUEENON
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3580 (1625)	WS35	X48M28T22CUEENON
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3500 (1589)	WS35	X48M28T33CUEENON
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	362 (164)	WS38	X48M28F15CUEENON
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	430 (195)	WS38	X48M28F30CUEENON
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	627 (285)	WS39	X48M28F45CUEENON
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	926 (420)	WS19	X48M28F75CUEENON
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1628 (739)	WS34	X48M28F12CUEENON
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	2001 (908)	WS34	X48M28F49CUEENON
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3596 (1633)	WS35	X48M28F22CUEENON
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3891 (1767)	WS35	X48M28F33CUEENON
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	358 (163)	WS38	X48M28B15CUEENON
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	558 (253)	WS39	X48M28B30CUEENON
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	630 (286)	WS39	X48M28B45CUEENON
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	940 (427)	WS19	X48M28B75CUEENON
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1628 (739)	WS34	X48M28B12CUEENON
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	1800 (817)	WS34	X48M28B49CUEENON
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B22CUEENON
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	4377 (1987)	WS35	X48M28B33CUEENON

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type THR 30-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	290 (132)	WS38	X48M28T15EETHR
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	365 (166)	WS38	X48M28T30EETHR
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	560 (254)	WS39	X48M28T45EETHR
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	800 (363)	WS19	X48M28T75EETHR
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1380 (627)	WS34	X48M28T12EETHR
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1560 (708)	WS34	X48M28T49EETHR
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2400 (1090)	WS35	X48M28T22EETHR
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2970 (1348)	WS35	X48M28T33EETHR
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	360 (163)	WS38	X48M28F15EETHR
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	405 (184)	WS38	X48M28F30EETHR
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	575 (261)	WS39	X48M28F45EETHR
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	900 (409)	WS19	X48M28F75EETHR
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1380 (627)	WS34	X48M28F12EETHR
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	1600 (726)	WS34	X48M28F49EETHR
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	2600 (1180)	WS35	X48M28F22EETHR
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3100 (1407)	WS35	X48M28F33EETHR
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	380 (173)	WS38	X48M28B15EETHR
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	560 (254)	WS39	X48M28B30EETHR
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	800 (363)	WS39	X48M28B45EETHR
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	1380 (627)	WS19	X48M28B75EETHR
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1560 (708)	WS34	X48M28B12EETHR
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	2400 (1090)	WS34	X48M28B49EETHR
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	2970 (1348)	WS35	X48M28B22EETHR
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B33EETHR

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type THR 30-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	203X	335 (152)	WS38	X48M28T15CUEETHR
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	203X	450 (204)	WS38	X48M28T30CUEETHR
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	203X	627 (285)	WS39	X48M28T45CUEETHR
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	203X	855 (388)	WS19	X48M28T75CUEETHR
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	203X	1610 (731)	WS34	X48M28T12CUEETHR
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	203X	1800 (817)	WS34	X48M28T49CUEETHR
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	203X	3450 (1566)	WS35	X48M28T22CUEETHR
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	203X	3894 (1768)	WS35	X48M28T33CUEETHR
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	203X	362 (164)	WS38	X48M28F15CUEETHR
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	203X	450 (204)	WS38	X48M28F30CUEETHR
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	203X	610 (277)	WS39	X48M28F45CUEETHR
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	203X	868 (394)	WS19	X48M28F75CUEETHR
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	203X	1643 (746)	WS34	X48M28F12CUEETHR
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	203X	2001 (908)	WS34	X48M28F49CUEETHR
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	203X	3370 (1530)	WS35	X48M28F22CUEETHR
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	203X	3894 (1768)	WS35	X48M28F33CUEETHR
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	203X	358 (163)	WS38	X48M28B15CUEETHR
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	203X	558 (253)	WS39	X48M28B30CUEETHR
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	203X	630 (286)	WS39	X48M28B45CUEETHR
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	203X	940 (427)	WS19	X48M28B75CUEETHR
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	203X	1628 (739)	WS34	X48M28B12CUEETHR
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	203X	1800 (817)	WS34	X48M28B49CUEETHR
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	203X	3400 (1544)	WS35	X48M28B22CUEETHR
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	203X	4417 (2005)	WS35	X48M28B33CUEETHR

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type NEG –15-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	290 (132)	WS38	X48M28T15EENEG
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	365 (166)	WS38	X48M28T30EENEG
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	560 (254)	WS39	X48M28T45EENEG
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	800 (363)	WS19	X48M28T75EENEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1380 (627)	WS34	X48M28T12EENEG
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1560 (708)	WS34	X48M28T49EENEG
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2400 (1090)	WS35	X48M28T22EENEG
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2970 (1348)	WS35	X48M28T33EENEG
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	360 (163)	WS38	X48M28F15EENEG
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	405 (184)	WS38	X48M28F30EENEG
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	575 (261)	WS39	X48M28F45EENEG
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	900 (409)	WS19	X48M28F75EENEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1380 (627)	WS34	X48M28F12EENEG
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	1600 (726)	WS34	X48M28F49EENEG
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	2600 (1180)	WS35	X48M28F22EENEG
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3100 (1407)	WS35	X48M28F33EENEG
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	380 (173)	WS38	X48M28B15EENEG
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	560 (254)	WS39	X48M28B30EENEG
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	800 (363)	WS39	X48M28B45EENEG
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	1380 (627)	WS19	X48M28B75EENEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1560 (708)	WS34	X48M28B12EENEG
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	2400 (1090)	WS34	X48M28B49EENEG
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	2970 (1348)	WS35	X48M28B22EENEG
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B33EENEG

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type NEG –15-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	335 (152)	WS38	X48M28T15CUEENEG
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	430 (195)	WS38	X48M28T30CUEENEG
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	627 (285)	WS39	X48M28T45CUEENEG
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	926 (420)	WS19	X48M28T75CUEENEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1610 (731)	WS34	X48M28T12CUEENEG
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1800 (817)	WS34	X48M28T49CUEENEG
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	200X	3580 (1625)	WS35	X48M28T22CUEENEG
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	200X	3500 (1589)	WS35	X48M28T33CUEENEG
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	353 (160)	WS38	X48M28F15CUEENEG
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	430 (195)	WS38	X48M28F30CUEENEG
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	627 (285)	WS39	X48M28F45CUEENEG
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	926 (420)	WS19	X48M28F75CUEENEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1628 (739)	WS34	X48M28F12CUEENEG
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	2001 (908)	WS34	X48M28F49CUEENEG
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	200X	3596 (1633)	WS35	X48M28F22CUEENEG
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	200X	3891 (1767)	WS35	X48M28F33CUEENEG
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	358 (163)	WS38	X48M28B15CUEENEG
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	558 (253)	WS39	X48M28B30CUEENEG
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	630 (286)	WS39	X48M28B45CUEENEG
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	940 (427)	WS19	X48M28B75CUEENEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1628 (739)	WS34	X48M28B12CUEENEG
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	1800 (817)	WS34	X48M28B49CUEENEG
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	200X	3400 (1544)	WS35	X48M28B22CUEENEG
300	2 at +2.5%	4 at -2.5%	DT-3	80	920EX	200X	4377 (1987)	WS35	X48M28B33CUEENEG

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type POS +15-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	290 (132)	WS38	X48M28T15EEPOS
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	365 (166)	WS38	X48M28T30EEPOS
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	560 (254)	WS39	X48M28T45EEPOS
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	800 (363)	WS19	X48M28T75EEPOS
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1380 (627)	WS34	X48M28T12EEPOS
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1560 (708)	WS34	X48M28T49EEPOS
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2400 (1090)	WS35	X48M28T22EEPOS
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	2970 (1348)	WS35	X48M28T33EEPOS
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	360 (163)	WS38	X48M28F15EEPOS
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	405 (184)	WS38	X48M28F30EEPOS
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	575 (261)	WS39	X48M28F45EEPOS
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	900 (409)	WS19	X48M28F75EEPOS
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1380 (627)	WS34	X48M28F12EEPOS
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	1600 (726)	WS34	X48M28F49EEPOS
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	2600 (1180)	WS35	X48M28F22EEPOS
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3100 (1407)	WS35	X48M28F33EEPOS
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	380 (173)	WS38	X48M28B15EEPOS
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	560 (254)	WS39	X48M28B30EEPOS
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	800 (363)	WS39	X48M28B45EEPOS
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	1380 (627)	WS19	X48M28B75EEPOS
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1560 (708)	WS34	X48M28B12EEPOS
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	2400 (1090)	WS34	X48M28B49EEPOS
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	2970 (1348)	WS35	X48M28B22EEPOS
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B33EEPOS

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz NEMA TP-1 Energy-Efficient Harmonic Mitigating

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480 Volts to 208Y/120 Volts—Copper Windings—Type POS +15-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	335 (152)	WS38	X48M28T15CUEEPOS
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	430 (195)	WS38	X48M28T30CUEEPOS
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	627 (285)	WS39	X48M28T45CUEEPOS
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	926 (420)	WS19	X48M28T75CUEEPOS
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1610 (731)	WS34	X48M28T12CUEEPOS
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1800 (817)	WS34	X48M28T49CUEEPOS
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3580 (1625)	WS35	X48M28T22CUEEPOS
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3500 (1589)	WS35	X48M28T33CUEEPOS
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	362 (164)	WS38	X48M28F15CUEEPOS
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	430 (195)	WS38	X48M28F30CUEEPOS
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	627 (285)	WS39	X48M28F45CUEEPOS
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	926 (420)	WS19	X48M28F75CUEEPOS
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1628 (739)	WS34	X48M28F12CUEEPOS
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	2001 (908)	WS34	X48M28F49CUEEPOS
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3596 (1633)	WS35	X48M28F22CUEEPOS
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3891 (1767)	WS35	X48M28F33CUEEPOS
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	358 (163)	WS38	X48M28B15CUEEPOS
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	558 (253)	WS39	X48M28B30CUEEPOS
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	630 (286)	WS39	X48M28B45CUEEPOS
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	940 (427)	WS19	X48M28B75CUEEPOS
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1628 (739)	WS34	X48M28B12CUEEPOS
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	1800 (817)	WS34	X48M28B49CUEEPOS
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B22CUEEPOS
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	4377 (1987)	WS35	X48M28B33CUEEPOS

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type NON 0-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T15E3NON
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T30E3NON
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T45E3NON
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T75E3NON
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T12E3NON
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T49E3NON
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T22E3NON
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T33E3NON
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F15E3NON
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F30E3NON
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F45E3NON
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F75E3NON
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F12E3NON
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F49E3NON
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F22E3NON
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F33E3NON
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B15E3NON
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B30E3NON
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B45E3NON
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B75E3NON
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B12E3NON
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B49E3NON
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B22E3NON
300	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B33E3NON

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type NON 0-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	335 (152)	WS38	X48M28T15CUE3NON
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	430 (195)	WS38	X48M28T30CUE3NON
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	627 (285)	WS39	X48M28T45CUE3NON
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	926 (420)	WS19	X48M28T75CUE3NON
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1610 (731)	WS34	X48M28T12CUE3NON
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1800 (817)	WS34	X48M28T49CUE3NON
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3580 (1625)	WS35	X48M28T22CUE3NON
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3500 (1589)	WS35	X48M28T33CUE3NON
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	362 (164)	WS38	X48M28F15CUE3NON
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	430 (195)	WS38	X48M28F30CUE3NON
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	627 (285)	WS39	X48M28F45CUE3NON
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	926 (420)	WS19	X48M28F75CUE3NON
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1628 (739)	WS34	X48M28F12CUE3NON
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	2001 (908)	WS34	X48M28F49CUE3NON
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3596 (1633)	WS35	X48M28F22CUE3NON
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3891 (1767)	WS35	X48M28F33CUE3NON
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	358 (163)	WS38	X48M28B15CUE3NON
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	558 (253)	WS39	X48M28B30CUE3NON
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	630 (286)	WS39	X48M28B45CUE3NON
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	940 (427)	WS19	X48M28B75CUE3NON
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1628 (739)	WS34	X48M28B12CUE3NON
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	1800 (817)	WS34	X48M28B49CUE3NON
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B22CUE3NON
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	4377 (1987)	WS35	X48M28B33CUE3NON

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type THR 30-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T15E3THR
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T30E3THR
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T45E3THR
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T75E3THR
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T12E3THR
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T49E3THR
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T22E3THR
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T33E3THR
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F15E3THR
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F30E3THR
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F45E3THR
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F75E3THR
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F12E3THR
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F49E3THR
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F22E3THR
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F33E3THR
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B15E3THR
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B30E3THR
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B45E3THR
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B75E3THR
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B12E3THR
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B49E3THR
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B22E3THR
300	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B33E3THR

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type THR 30-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	203X	335 (152)	WS38	X48M28T15CUE3THR
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	203X	450 (204)	WS38	X48M28T30CUE3THR
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	203X	627 (285)	WS39	X48M28T45CUE3THR
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	203X	855 (388)	WS19	X48M28T75CUE3THR
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	203X	1610 (731)	WS34	X48M28T12CUE3THR
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	203X	1800 (817)	WS34	X48M28T49CUE3THR
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	203X	3450 (1566)	WS35	X48M28T22CUE3THR
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	203X	3894 (1768)	WS35	X48M28T33CUE3THR
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	203X	362 (164)	WS38	X48M28F15CUE3THR
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	203X	450 (204)	WS38	X48M28F30CUE3THR
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	203X	610 (277)	WS39	X48M28F45CUE3THR
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	203X	868 (394)	WS19	X48M28F75CUE3THR
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	203X	1643 (746)	WS34	X48M28F12CUE3THR
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	203X	2001 (908)	WS34	X48M28F49CUE3THR
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	203X	3370 (1530)	WS35	X48M28F22CUE3THR
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	203X	3894 (1768)	WS35	X48M28F33CUE3THR
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	203X	358 (163)	WS38	X48M28B15CUE3THR
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	203X	558 (253)	WS39	X48M28B30CUE3THR
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	203X	630 (286)	WS39	X48M28B45CUE3THR
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	203X	940 (427)	WS19	X48M28B75CUE3THR
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	203X	1628 (739)	WS34	X48M28B12CUE3THR
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	203X	1800 (817)	WS34	X48M28B49CUE3THR
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	203X	3400 (1544)	WS35	X48M28B22CUE3THR

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type NEG –15-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T15E3NEG
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T30E3NEG
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T45E3NEG
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T75E3NEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T12E3NEG
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T49E3NEG
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T22E3NEG
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T33E3NEG
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F15E3NEG
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F30E3NEG
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F45E3NEG
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F75E3NEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F12E3NEG
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F49E3NEG
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F22E3NEG
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F33E3NEG
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B15E3NEG
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B30E3NEG
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B45E3NEG
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B75E3NEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B12E3NEG
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B49E3NEG
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B22E3NEG
300	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B33E3NEG

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type NEG –15-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	335 (152)	WS38	X48M28T15CUE3NEG
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	430 (195)	WS38	X48M28T30CUE3NEG
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	627 (285)	WS39	X48M28T45CUE3NEG
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	926 (420)	WS19	X48M28T75CUE3NEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1610 (731)	WS34	X48M28T12CUE3NEG
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1800 (817)	WS34	X48M28T49CUE3NEG
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	200X	3580 (1625)	WS35	X48M28T22CUE3NEG
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	200X	3500 (1589)	WS35	X48M28T33CUE3NEG
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	353 (160)	WS38	X48M28F15CUE3NEG
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	430 (195)	WS38	X48M28F30CUE3NEG
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	627 (285)	WS39	X48M28F45CUE3NEG
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	926 (420)	WS19	X48M28F75CUE3NEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1628 (739)	WS34	X48M28F12CUE3NEG
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	2001 (908)	WS34	X48M28F49CUE3NEG
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	200X	3596 (1633)	WS35	X48M28F22CUE3NEG
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	200X	3891 (1767)	WS35	X48M28F33CUE3NEG
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	358 (163)	WS38	X48M28B15CUE3NEG
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	558 (253)	WS39	X48M28B30CUE3NEG
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	630 (286)	WS39	X48M28B45CUE3NEG
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	940 (427)	WS19	X48M28B75CUE3NEG
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1628 (739)	WS34	X48M28B12CUE3NEG
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	1800 (817)	WS34	X48M28B49CUE3NEG
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	200X	3400 (1544)	WS35	X48M28B22CUE3NEG
300	2 at +2.5%	4 at -2.5%	DT-3	80	920EX	200X	4377 (1987)	WS35	X48M28B33CUE3NEG

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating**480 Volts to 208Y/120 Volts—Aluminum Windings—Type POS +15-Degree Phase Shift**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T15E3POS
30	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T30E3POS
45	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T45E3POS
75	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T75E3POS
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T12E3POS
150	2 at +2.5%	4 at -2.5%	DT-3	150	—	200X	—	—	X48M28T49E3POS
225	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T22E3POS
300	2 at +2.5%	4 at -2.5%	DT-3	150	—	201X	—	—	X48M28T33E3POS
15	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F15E3POS
30	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F30E3POS
45	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F45E3POS
75	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F75E3POS
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F12E3POS
150	2 at +2.5%	4 at -2.5%	DT-3	115	—	200X	—	—	X48M28F49E3POS
225	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F22E3POS
300	2 at +2.5%	4 at -2.5%	DT-3	115	—	201X	—	—	X48M28F33E3POS
15	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B15E3POS
30	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B30E3POS
45	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B45E3POS
75	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B75E3POS
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B12E3POS
150	2 at +2.5%	4 at -2.5%	DT-3	80	—	200X	—	—	X48M28B49E3POS
225	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B22E3POS
300	2 at +2.5%	4 at -2.5%	DT-3	80	—	201X	—	—	X48M28B33E3POS

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3 60 Hz E3 Super Energy-Efficient Harmonic Mitigating

2

480 Volts to 208Y/120 Volts—Copper Windings—Type POS +15-Degree Phase Shift

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	335 (152)	WS38	X48M28T15CUE3POS
30	2 at +2.5%	4 at -2.5%	DT-3	150	912B	200X	430 (195)	WS38	X48M28T30CUE3POS
45	2 at +2.5%	4 at -2.5%	DT-3	150	915D	200X	627 (285)	WS39	X48M28T45CUE3POS
75	2 at +2.5%	4 at -2.5%	DT-3	150	916A	200X	926 (420)	WS19	X48M28T75CUE3POS
112.5	2 at +2.5%	4 at -2.5%	DT-3	150	917	200X	1610 (731)	WS34	X48M28T12CUE3POS
150	2 at +2.5%	4 at -2.5%	DT-3	150	918A	200X	1800 (817)	WS34	X48M28T49CUE3POS
225	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3580 (1625)	WS35	X48M28T22CUE3POS
300	2 at +2.5%	4 at -2.5%	DT-3	150	919EX	201X	3500 (1589)	WS35	X48M28T33CUE3POS
15	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	362 (164)	WS38	X48M28F15CUE3POS
30	2 at +2.5%	4 at -2.5%	DT-3	115	912B	200X	430 (195)	WS38	X48M28F30CUE3POS
45	2 at +2.5%	4 at -2.5%	DT-3	115	915D	200X	627 (285)	WS39	X48M28F45CUE3POS
75	2 at +2.5%	4 at -2.5%	DT-3	115	916A	200X	926 (420)	WS19	X48M28F75CUE3POS
112.5	2 at +2.5%	4 at -2.5%	DT-3	115	917	200X	1628 (739)	WS34	X48M28F12CUE3POS
150	2 at +2.5%	4 at -2.5%	DT-3	115	918A	200X	2001 (908)	WS34	X48M28F49CUE3POS
225	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3596 (1633)	WS35	X48M28F22CUE3POS
300	2 at +2.5%	4 at -2.5%	DT-3	115	919EX	201X	3891 (1767)	WS35	X48M28F33CUE3POS
15	2 at +2.5%	4 at -2.5%	DT-3	80	912B	200X	358 (163)	WS38	X48M28B15CUE3POS
30	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	558 (253)	WS39	X48M28B30CUE3POS
45	2 at +2.5%	4 at -2.5%	DT-3	80	915D	200X	630 (286)	WS39	X48M28B45CUE3POS
75	2 at +2.5%	4 at -2.5%	DT-3	80	916A	200X	940 (427)	WS19	X48M28B75CUE3POS
112.5	2 at +2.5%	4 at -2.5%	DT-3	80	917	200X	1628 (739)	WS34	X48M28B12CUE3POS
150	2 at +2.5%	4 at -2.5%	DT-3	80	918A	200X	1800 (817)	WS34	X48M28B49CUE3POS
225	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	3400 (1544)	WS35	X48M28B22CUE3POS
300	2 at +2.5%	4 at -2.5%	DT-3	80	919EX	201X	4377 (1987)	WS35	X48M28B33CUE3POS

NoteFrame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Harmonic mitigating transformers are available with the same options and accessories as general-purpose ventilated transformers. Please refer to Section 2.7
Page V2-T2-189.

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capacity

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour; 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton ventilated transformers Types DS-3 and DT-3 use a NEMA 2 rated (drip-proof) enclosure as a standard, and are rated NEMA 3R with the addition of weathershields.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet

NEMA ST-20 levels listed here. Lower sound levels are available and must be designed specially.

Average Sound Levels ^①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Notes

^① Currently being reviewed and revised by NEMA.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

Demystifying Harmonic Mitigating Transformer Myths

Aren't "power factor corrected" computer power supplies fixing all harmonics?

The use of power factor corrected computer power supplies is a great first start to reducing harmonic currents in your facility. These are becoming prevalent in server applications, but have not "crossed-over" into the laptop computer/business computer. Remember also that, once the computer power supply harmonics are addressed, you will still need to address the harmonic currents coming from the variety of other equipment in your facility.

Don't K-rated transformers fix harmonics?

The K-rated transformer was created to address the additional heat being produced by standard delta-wye transformers when feeding nonlinear loads. The goal of the K-rated transformer is to dissipate the heat produced over a larger area, thus providing the illusion of correction. The K-rated transformer does nothing to reduce the root issue of harmonic currents or correct power quality issues. Because of their larger size, they also consume additional energy to "do the same work" and are counter-productive to an energy-efficient electrical distribution design.

Don't you need two HMTs for any correction to occur?

The design of HMTs allows them to address different families of harmonic currents in different ways. A single HMT will treat the triplen (3rd, 9th, 15th and so on) harmonic currents in its secondary winding. The 5th, 7th, 17th and 19th harmonic family is treated on a system basis through a technique known as "phase shifting."

This phase shift does occur between the Type NON and Type THR, and the Type POS and Type NEG harmonic mitigating transformers—and this can also occur between a Type NON and a standard delta-wye transformer (that is probably already existing within your facility). See our Sample HMT Applications area for additional information.

The cost of HMTs is too high!

While the initial cost of HMTs is typically 1.5 to 4 times the cost of a standard transformer (due to the additional design, materials and labor involved in creating the magnetics necessary to reduce harmonic impact)—to not use an HMT in a harmonic environment will actually cost you 250% more energy loss in the transformer. Due to the relatively long life of a transformer (20–30 years), these additional energy costs easily overshadow the initial one-time first cost increment.

If I use one HMT, don't I need to change all my transformers?

Most facilities have only a percentage (typically 20–25%) of their electrical system that really requires the use of an HMT. This means in a typical building that only a few areas are either critical (meaning high requirements for "clean" power) or have high concentrations of electronic, nonlinear loads—requiring the use of the HMT in those specific areas. The harmonic mitigating transformer is a weapon in your arsenal in providing a complete, properly designed electrical system for today and tomorrow.

Transformer Technology Table Explanation

In understanding the product placement of the HMT, it becomes useful to have some "rule of thumb" understanding to compare products. Looking at one of the aspects of an HMT—price—you can see that, if a standard delta-wye transformer had a cost of one unit, a K-13 transformer would cost about double and an HMT would cost 1.5 to 4 times the unit cost. What's impressive to compare is the next column of information—"Energy Savings." If the amount of energy used to power today's loads is compared against a standard delta-wye transformer (that was never designed to feed today's types of loads), you can easily see that the HMT is designed to meet the issue head-on! Referring to the table's information, you can see that it would take 30% more energy to power the same computer loads with a K-13 transformer, whereas an HMT would take 25% less energy to feed those same

computer loads. (This is due to the fact that the HMT has a different design than a standard delta-wye transformer and addresses the root issue of harmonic currents.) A good analogy is to look at the incandescent light bulb versus a compact fluorescent lamp—you might pay a bit more up front, but because of the large energy savings (because of the harmonic loading), you soon realize that the upfront cost pales in comparison to the potential of energy saved. Eaton would be happy to provide you with an estimation calculator to help you determine the amount of payback and return on investment (ROI) based on the incremental cost of the HMT. It's very typical to return the price differential between the HMT and a standard transformer with a few years—thus using the additional 20 to 30 years of energy savings to add to your bottom line.

Transformer Technology Comparison ①

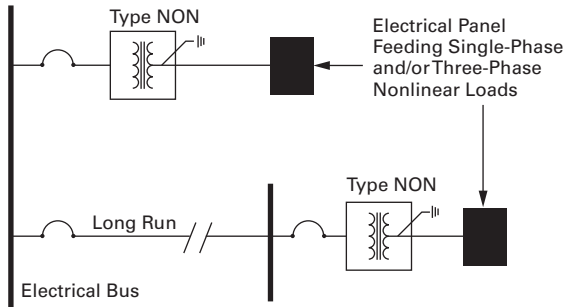
Transformer Type	Cost	Energy Savings	Power Quality
Standard delta-wye	if 1X	if 1X	Not designed for harmonics
K-13	1.5–2X	–0.3X	Bulked up—doesn't help
HMT	2.5X	2.5X	Corrects root issue

Note

① Comparing cost, energy savings and power quality performance between the "commonly used" transformer types.

Sample HMT Applications

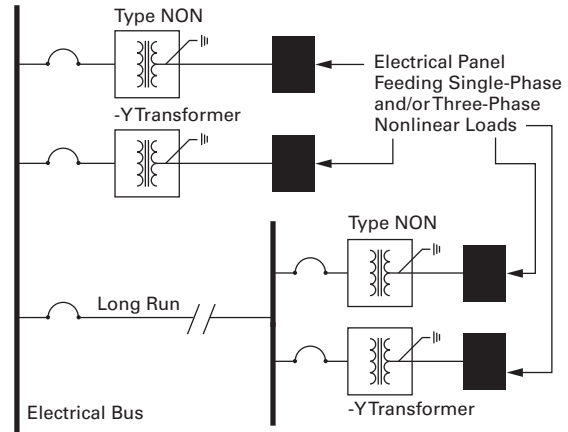
Typical Application of Type NON Transformer



Installation of a Type NON transformer provides an effective treatment of triplen (3rd, 9th, 15th and so on) harmonic currents that are generated by loads connected to the transformer. Triplen harmonic currents are treated in the secondary windings of the transformer due to the transformer's low zero sequence impedance. Type NON transformers do not need to be used in combination with other transformers to treat triplen harmonic currents. A single Type NON transformer may be installed, or multiple units can be applied.

Type NON transformers are an ideal solution for treating triplen harmonics generated by personal computers, printers, fax machines and other office equipment, as well as by single-phase electronic ballasts, and single-phase electronic testing or monitoring devices.

Typical Application of Type NON Transformer with a Standard Delta-Wye Transformer



When a delta-wye transformer exists in an electrical distribution system, the addition of a Type NON transformer offers an economical solution for treating harmonic currents. The 30° phase-shift created between a Type NON harmonic mitigating transformer and a delta-wye transformer (standard transformer or K-Factor transformer) provides treatment of 5th, 7th, 17th and 19th harmonic currents. These harmonic currents are canceled in the common electrical bus that feeds the transformers. Additionally,

triplen (3rd, 9th, 15th and so on) harmonic currents generated by the loads connected to the Type NON transformer will be treated in the secondary windings of the Type NON transformer due to its low zero sequence impedance. When using two or more transformers to treat harmonics, it is better that the load be split equally between the transformers to receive the maximum benefit.

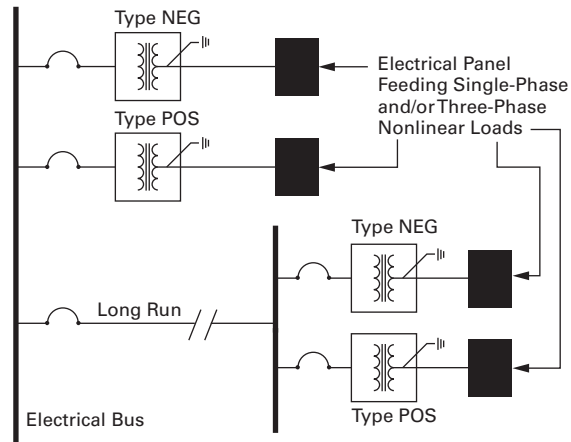
Note: Triplen currents will still circulate in the delta-wye transformer for additional waste. See figure on **Page V2-T2-92** to correct.

Optimum Application of Type NON and Type THR Transformers

When you're searching for an optimum harmonic correction solution in an electrical distribution system, the combination of a Type NON and Type THR transformer offers a great solution. The 30° phase shift created between Type NON and type THR harmonic mitigating transformers provides treatment of 5th, 7th, 17th and 19th harmonic currents. These harmonic currents are canceled in the common electrical bus that feeds the transformers. Additionally,

triplen (3rd, 9th, 15th and so on) harmonic currents generated by the loads will be treated in the secondary windings of HMTs. This will ensure that these currents will not circulate in the primary of the transformer creating additional heat, voltage distortion and wasted energy loss. When using two or more transformers to treat harmonics, it is better that the load be split equally between the transformers to receive the maximum benefit.

Typical Application of Type NEG and Type POS Transformers



The combination of a Type POS (+15° phase-shift) transformer and a Type NEG (-15° phase-shift) transformer effectively treats 5th, 7th, 17th and 19th harmonic currents. These harmonic currents are canceled in the common electrical bus that feeds the transformers. Additionally, triplen (3rd, 9th, 15th and so on) harmonic

currents generated by the loads connected to these transformers will be treated in their secondary windings due to their low zero sequence impedance. When using two or more transformers to treat harmonics, it is better that the load be split equally between the transformers to receive the maximum benefit.

Type EP 3–25 kVA



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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.

Type EP and EPT

- Encapsulated design
- Suitable for indoor or outdoor applications
- Totally enclosed, non-ventilated enclosures
- Enclosures are NEMA 3R rated
- Mountable in any position indoors and upright-only outdoors
- 180°C insulation system
- 115°C rise standard; 80°C optional
- Available in ratings through 37.5 kVA single-phase; 75 kVA three-phase

Application Description

The basic purpose of a transformer is voltage transformation as near as practically possible to the load for economy and distribution of power. Typical loads for dry-type distribution transformers include lighting, heating, air conditioners, fans and machine tools. Such loads are found in commercial, institutional, industrial and residential structures.

Features, Benefits and Functions

- 60 Hz operation (50/60 Hz optional)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL listed
- CSA certified



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.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC), and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-185**.

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Product Selection

Additional Product Selection information begins on **Page V2-T2-187**.

Single-Phase Encapsulated—Type EP, 60 Hz

Type EP 3–37.5 kVA



120 x 240 Volts to 120/240 Volts ①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.5	—	—	EP	115	FR57P	3E	16 (7)	Indoor–Outdoor	S10N11P51P
1	—	—	EP	115	FR67P	3E	31 (14)	Indoor–Outdoor	S10N11P01P
1.5	—	—	EP	115	FR67P	3E	42 (19)	Indoor–Outdoor	S10N11P16P
2	—	—	EP	115	FR68P	3E	42 (19)	Indoor–Outdoor	S10N11P02P
3	—	—	EP	115	FR176	3E	55 (25)	Indoor–Outdoor	S10N11S03N
5	—	—	EP	115	FR177	3E	113 (51)	Indoor–Outdoor	S10N11S05N
7.5	—	—	EP	115	FR178	3E	123 (56)	Indoor–Outdoor	S10N11S07N
10	—	—	EP	115	FR179	3E	193 (88)	Indoor–Outdoor	S10N11S10N
15	—	—	EP	115	FR180	3E	216 (98)	Indoor–Outdoor	S10N11S15N
25	—	—	EP	115	FR182	3E	375 (170)	Indoor–Outdoor	S10N11S25N

208 Volts to 120/240 Volts ①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.5	—	—	EP	115	FR57P	26A	16 (7)	Indoor–Outdoor	S29N11P51P
1	—	—	EP	115	FR67P	26A	31 (14)	Indoor–Outdoor	S29N11P01P
1.5	—	—	EP	115	FR67P	26A	42 (19)	Indoor–Outdoor	S29N11P16P
2	—	—	EP	115	FR68P	26A	42 (19)	Indoor–Outdoor	S29N11P02P
3	—	—	EP	115	FR176	26A	65 (30)	Indoor–Outdoor	S29N11S03N
5	—	—	EP	115	FR177	26A	113 (51)	Indoor–Outdoor	S29N11S05N
7.5	—	—	EP	115	FR178	26A	123 (56)	Indoor–Outdoor	S29N11S07N
10	—	—	EP	115	FR179	26A	193 (88)	Indoor–Outdoor	S29N11S10N
15	—	—	EP	115	FR180	26A	216 (98)	Indoor–Outdoor	S29N11S15N
25	—	—	EP	115	FR182	26A	395 (179)	Indoor–Outdoor	S29N11S25N

Notes

① Contact Eaton for availability of 0.05–0.25 kVA designs.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Encapsulated—Type EP, 60 Hz

277 Volts to 120/240 Volts ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.5	—	—	EP	115	FR58AP	524A	26 (12)	Indoor–Outdoor	S27N11P51P
1	—	—	EP	115	FR59AP	524A	31 (14)	Indoor–Outdoor	S27N11P01P
1.5	—	—	EP	115	FR67P	524A	42 (19)	Indoor–Outdoor	S27N11P16P
2	—	—	EP	115	FR176P	524A	65 (30)	Indoor–Outdoor	S27N11P02P
3	—	—	EP	115	FR176	524A	55 (25)	Indoor–Outdoor	S27N11S03N
5	—	—	EP	115	FR177	524A	113 (51)	Indoor–Outdoor	S27N11S05N
7.5	—	—	EP	115	FR178	524A	123 (56)	Indoor–Outdoor	S27N11S07N
10	—	—	EP	115	FR179	524A	193 (88)	Indoor–Outdoor	S27N11S10N
15	—	—	EP	115	FR180	524A	180 (82)	Indoor–Outdoor	S27N11S15N
25	—	—	EP	115	FR182	524A	375 (170)	Indoor–Outdoor	S27N11S25N

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.050	—	—	EP	115	FR52	3A	7 (3)	Indoor–Outdoor	S20N11S81N
0.075	—	—	EP	115	FR54	3A	7 (3)	Indoor–Outdoor	S20N11S85N
0.100	—	—	EP	115	FR54	3A	7 (3)	Indoor–Outdoor	S20N11S82N
0.150	—	—	EP	115	FR55	3A	8 (4)	Indoor–Outdoor	S20N11S83N
0.25	—	—	EP	115	FR57P	3A	12 (5)	Indoor–Outdoor	S20N11P26P
0.5	—	—	EP	115	FR57P	3A	16 (7)	Indoor–Outdoor	S20N11P51P
0.75	—	—	EP	115	FR58AP	3A	26 (12)	Indoor–Outdoor	S20N11P76P
1	—	—	EP	115	FR67P	3A	31 (14)	Indoor–Outdoor	S20N11P01P
1.5	—	—	EP	115	FR67P	3A	42 (19)	Indoor–Outdoor	S20N11P16P
2	—	—	EP	115	FR68P	3A	42 (19)	Indoor–Outdoor	S20N11P02P
3	—	—	EP	115	FR176	3A	65 (30)	Indoor–Outdoor	S20N11S03N
3	②	②	EP	115	FR176	3A	65 (30)	Indoor–Outdoor	S20K11S03N
5	—	—	EP	115	FR177	3A	113 (51)	Indoor–Outdoor	S20N11S05N
5	②	②	EP	115	FR177	9A	105 (48)	Indoor–Outdoor	S20K11S05N
7.5	—	—	EP	115	FR178	3A	105 (48)	Indoor–Outdoor	S20N11S07N
7.5	②	②	EP	115	FR178	9A	123 (56)	Indoor–Outdoor	S20K11S07N
10	—	—	EP	115	FR179	3A	193 (88)	Indoor–Outdoor	S20N11S10N
10	②	②	EP	115	FR179	9A	193 (88)	Indoor–Outdoor	S20K11S10N
15	—	—	EP	115	FR180	3A	216 (98)	Indoor–Outdoor	S20N11S15N
15	③	③	EP	115	FR180	23A	216 (98)	Indoor–Outdoor	S20L11S15N
25	—	—	EP	115	FR182	3A	385 (175)	Indoor–Outdoor	S20N11S25N
25	③	③	EP	115	FR182	23A	375 (170)	Indoor–Outdoor	S20L11S25N
37.5	③	③	EP	115	FR300A	248A	735 (334)	Indoor–Outdoor	S20L11S37 ^④

Notes

- ① Contact Eaton for availability of 0.05–0.25 kVA designs.
 ② 1 at +10% FCBN at 240 volts; 2 at +5% FCBN at 480 volts.
 ③ 2 at +5% FCBN at 240 volts; 4 at +2.5% FCBN at 480 volts.
 ④ Floor-mount only.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Encapsulated—Type EP, 60 Hz

2

190/200/208/220 x 380/400/416/440 Volts to 110/220 Volts 50/60 Hz—Export Model IP 22 Rated

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.5	—	—	EP	115	FR67	538A	42 (19)	Indoor–Outdoor	S40N14S51CE
1	—	—	EP	115	FR67	538A	42 (19)	Indoor–Outdoor	S40N14S01CE
1.5	—	—	EP	115	FR176	538A	65 (30)	Indoor–Outdoor	S40N14S16CE
2	—	—	EP	115	FR176	538A	65 (30)	Indoor–Outdoor	S40N14S02CE
3	—	—	EP	115	FR177	538A	113 (51)	Indoor–Outdoor	S40N14S03CE
5	—	—	EP	115	FR178	538A	140 (64)	Indoor–Outdoor	S40N14S05CE
7.5	—	—	EP	115	FR179	538A	193 (88)	Indoor–Outdoor	S40N14S07CE
10	—	—	EP	115	FR180	538A	216 (98)	Indoor–Outdoor	S40N14S10CE
15	—	—	EP	115	FR182	538A	375 (170)	Indoor–Outdoor	S40N14S15CE

120/208/240/277 Volts to 120/240 Volts 60 Hz

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
1	—	—	EP	115	FR67P	①	42 (19)	Indoor–Outdoor	S54N11P01
1.5	—	—	EP	115	FR176P	①	65 (30)	Indoor–Outdoor	S54N11P16
2	—	—	EP	115	FR176P	①	65 (30)	Indoor–Outdoor	S54N11P02
3	—	—	EP	115	FR177	①	113 (51)	Indoor–Outdoor	S54N11S03
5	—	—	EP	115	FR178	①	140 (64)	Indoor–Outdoor	S54N11S05
7.5	—	—	EP	115	FR179	①	193 (88)	Indoor–Outdoor	S54N11S07
10	—	—	EP	115	FR180	①	216 (98)	Indoor–Outdoor	S54N11S10

240 x 480 Volts to 120/240 Volts Stainless Steel ②

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	3A	65 (30)	Indoor–Outdoor	S20N11S03SS
5	—	—	EP	115	FR177	3A	113 (51)	Indoor–Outdoor	S20N11S05SS
7.5	—	—	EP	115	FR178	3A	123 (56)	Indoor–Outdoor	S20N11S07SS
10	—	—	EP	115	FR179	3A	193 (88)	Indoor–Outdoor	S20N11S10SS
15	—	—	EP	115	FR180	3A	205 (93)	Indoor–Outdoor	S20N11S15SS
25	—	—	EP	115	FR182	3A	375 (170)	Indoor–Outdoor	S20N11S25SS

Notes

① Refer to your local Eaton sales office.

② NEMA 3R, 304 stainless steel enclosure; 316 stainless steel enclosure available as an option.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Encapsulated—Type EP, 60 Hz

480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
1	—	2 at -5%	EP	115	FR67P	2D	31 (14)	Indoor-Outdoor	S48G11P01P
1.5	—	2 at -5%	EP	115	FR67P	2D	42 (19)	Indoor-Outdoor	S48G11P16P
2	—	2 at -5%	EP	115	FR68P	2D	42 (19)	Indoor-Outdoor	S48G11P02P
3	—	2 at -5%	EP	115	FR176	2D	65 (30)	Indoor-Outdoor	S48G11S03N
3	2 at +2.5%	2 at +2.5%	EP	115	FR176	16A	65 (30)	Indoor-Outdoor	S48D11S03N
5	—	2 at -5%	EP	115	FR177	2D	113 (51)	Indoor-Outdoor	S48G11S05N
5	2 at +2.5%	2 at +2.5%	EP	115	FR177	16A	113 (51)	Indoor-Outdoor	S48D11S05N
7.5	—	2 at -5%	EP	115	FR178	2D	123 (56)	Indoor-Outdoor	S48G11S07N
7.5	2 at +2.5%	2 at +2.5%	EP	115	FR178	16A	123 (56)	Indoor-Outdoor	S48D11S07N
10	—	2 at -5%	EP	115	FR179	2D	193 (88)	Indoor-Outdoor	S48G11S10N
10	2 at +2.5%	2 at +2.5%	EP	115	FR179	16A	193 (88)	Indoor-Outdoor	S48D11S10N
15	—	2 at -5%	EP	115	FR180	2D	216 (98)	Indoor-Outdoor	S48G11S15N
15	2 at +2.5%	2 at +2.5%	EP	115	FR180	16A	216 (98)	Indoor-Outdoor	S48D11S15N
25	—	2 at -5%	EP	115	FR182	2D	385 (175)	Indoor-Outdoor	S48G11S25N
25	2 at +2.5%	4 at -2.5%	EP	115	FR132	83A	410 (186)	Indoor-Outdoor	S48M11S25N

480 Volts to 120/240 Volts Stainless Steel, Copper Windings ^①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
10	2 at +2.5%	2 at +2.5%	EP	115	FR179	16A	210 (95)	Indoor-Outdoor	S48D11S10CUSS
15	2 at +2.5%	2 at +2.5%	EP	115	FR180	16A	235 (107)	Indoor-Outdoor	S48D11S15SSCU
25	2 at +2.5%	4 at -2.5%	EP	115	FR182	83A	415 (188)	Indoor-Outdoor	S48M11S25SSCU

600 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.5	—	2 at -5%	EP	115	FR57P	2I	16 (7)	Indoor-Outdoor	S60G11P51P
0.75	—	2 at -5%	EP	115	FR58AP	2I	26 (12)	Indoor-Outdoor	S60G11P76P
1	—	2 at -5%	EP	115	FR67P	2I	31 (14)	Indoor-Outdoor	S60G11P01P
1.5	—	2 at -5%	EP	115	FR67P	2I	42 (19)	Indoor-Outdoor	S60G11P16P
2	—	2 at -5%	EP	115	FR68P	2I	42 (19)	Indoor-Outdoor	S60G11P02P
3	—	2 at -5%	EP	115	FR176	2I	65 (30)	Indoor-Outdoor	S60G11S03N
5	—	2 at -5%	EP	115	FR177	2I	105 (48)	Indoor-Outdoor	S60G11S05N
7.5	—	2 at -5%	EP	115	FR178	2I	123 (56)	Indoor-Outdoor	S60G11S07N
10	—	2 at -5%	EP	115	FR179	2I	193 (88)	Indoor-Outdoor	S60G11S10N
15	—	4 at -2.5%	EP	115	FR180	527A	216 (98)	Indoor-Outdoor	S60J11S15N
25	—	4 at -2.5%	EP	115	FR182	527A	385 (175)	Indoor-Outdoor	S60J11S25N
25	2 at 2.5%	4 at -2.5%	EP	115	FR132	83B	395 (180)	Indoor-Outdoor	S60M11S25N

Notes

^① NEMA 3R, 304 stainless steel enclosure; 316 stainless steel enclosure available as an option.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Shielded—Type EP, 60 Hz

2

120 x 240 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	90B	50 (23)	Indoor–Outdoor	S10N11E03N
5	—	—	EP	115	FR177	90B	90 (41)	Indoor–Outdoor	S10N11E05N
7.5	—	—	EP	115	FR178	90B	123 (56)	Indoor–Outdoor	S10N11E07N
10	—	—	EP	115	FR179	90B	210 (95)	Indoor–Outdoor	S10N11E10N
15	—	—	EP	115	FR180	90B	205 (93)	Indoor–Outdoor	S10N11E15N
25	—	—	EP	115	FR182	90B	375 (170)	Indoor–Outdoor	S10N11E25N

120 Volts to 120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	77A	60 (27)	Indoor–Outdoor	S12N12E03N
5	—	—	EP	115	FR177	77A	100 (45)	Indoor–Outdoor	S12N12E05N
7.5	—	—	EP	115	FR178	77A	123 (56)	Indoor–Outdoor	S12N12E07N
10	—	—	EP	115	FR179	77A	180 (82)	Indoor–Outdoor	S12N12E10N
15	—	—	EP	115	FR180	77A	216 (98)	Indoor–Outdoor	S12N12E15N
25	—	—	EP	115	FR182	77A	375 (170)	Indoor–Outdoor	S12N12E25N

208 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	578A	60 (27)	Indoor–Outdoor	S29N11E03N
5	—	—	EP	115	FR177	578A	135 (61)	Indoor–Outdoor	S29N11E05N
7.5	—	—	EP	115	FR178	578A	95 (43)	Indoor–Outdoor	S29N11E07N
10	—	—	EP	115	FR179	578A	165 (75)	Indoor–Outdoor	S29N11E10N
15	—	—	EP	115	FR180	578A	185 (94)	Indoor–Outdoor	S29N11E15N
25	—	—	EP	115	FR182	578A	375 (170)	Indoor–Outdoor	S29N11E25N

208 Volts to 208 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	77B	65 (30)	Indoor–Outdoor	S29N29E03N
5	—	—	EP	115	FR177	77B	113 (51)	Indoor–Outdoor	S29N29E05N
7.5	—	—	EP	115	FR178	77B	123 (56)	Indoor–Outdoor	S29N29E07N
10	—	—	EP	115	FR179	77B	195 (89)	Indoor–Outdoor	S29N29E10N
15	—	—	EP	115	FR180	77B	216 (98)	Indoor–Outdoor	S29N29E15N
25	—	—	EP	115	FR182	77B	375 (170)	Indoor–Outdoor	S29N29E25N

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Shielded—Type EP, 60 Hz

240 Volts to 240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	77C	65 (30)	Indoor–Outdoor	S24N24E03N
5	—	—	EP	115	FR177	77C	113 (51)	Indoor–Outdoor	S24N24E05N
7.5	—	—	EP	115	FR178	77C	123 (56)	Indoor–Outdoor	S24N24E07N
10	—	—	EP	115	FR179	77C	193 (88)	Indoor–Outdoor	S24N24E10N
15	—	—	EP	115	FR180	77C	216 (98)	Indoor–Outdoor	S24N24E15N
25	—	—	EP	115	FR182	77C	375 (170)	Indoor–Outdoor	S24N24E25N

277 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	—	EP	115	FR176	513B	65 (30)	Indoor–Outdoor	S27N11E03N
5	—	—	EP	115	FR177	513B	113 (51)	Indoor–Outdoor	S27N11E05N
7.5	—	—	EP	115	FR178	513B	75 (34)	Indoor–Outdoor	S27N11E07N
10	—	—	EP	115	FR179	513B	162 (74)	Indoor–Outdoor	S27N11E10N
15	—	—	EP	115	FR180	513B	216 (98)	Indoor–Outdoor	S27N11E15N
25	—	—	EP	115	FR182	513B	375 (170)	Indoor–Outdoor	S27N11E25N

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.25	—	—	EP	115	FR57P	90A	12 (5)	Indoor–Outdoor	S20N11E26P
0.50	—	—	EP	115	FR57P	90A	16 (7)	Indoor–Outdoor	S20N11E51P
0.75	—	—	EP	115	FR58AP	90A	26 (12)	Indoor–Outdoor	S20N11E76P
1	—	—	EP	115	FR67P	90A	31 (14)	Indoor–Outdoor	S20N11E01P
1.5	—	—	EP	115	FR67P	90A	42 (19)	Indoor–Outdoor	S20N11E16P
2	—	—	EP	115	FR68P	90A	42 (19)	Indoor–Outdoor	S20N11E02P
3	—	—	EP	115	FR176	90A	65 (30)	Indoor–Outdoor	S20N11E03A
5	—	—	EP	115	FR177	90A	113 (51)	Indoor–Outdoor	S20N11E05A
7.5	—	—	EP	115	FR178	90A	123 (56)	Indoor–Outdoor	S20N11E07A
10	—	—	EP	115	FR179	90A	166 (75)	Indoor–Outdoor	S20N11E10A
15	—	—	EP	115	FR180	90A	216 (98)	Indoor–Outdoor	S20N11E15A
25	①	①	EP	115	FR182	526A	375 (170)	Indoor–Outdoor	S20L11E25A

Notes

① 2 at +5% FCBN at 240 volts; 4 at –2.5% FCBN at 480 volts.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Encapsulated—Type EPT, 60 Hz

2

240 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
9	—	2 at -5%	EPT	115	FR103	70C	190 (86)	Indoor–Outdoor	Y24G28T09N ^①
15	—	2 at -5%	EPT	115	FR95	70C	275 (125)	Indoor–Outdoor	Y24G28T15N ^①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84C	422 (191)	Indoor–Outdoor	Y24M28T30N
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84C	660 (299)	Indoor–Outdoor	Y24M28T45N

380 Delta Volts to 190Y/110 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70F	116 (53)	Indoor–Outdoor	Y38G19T03A ^①
6	—	2 at -5%	EPT	115	FR200	70F	165 (75)	Indoor–Outdoor	Y38G19T06A ^①
9	—	2 at -5%	EPT	115	FR95	70F	275 (125)	Indoor–Outdoor	Y38G19T09A ^①
15	—	2 at -5%	EPT	115	FR95	72R	275 (125)	Indoor–Outdoor	Y38G19T15A ^①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84AC	422 (191)	Indoor–Outdoor	Y38M19T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84AC	660 (299)	Indoor–Outdoor	Y38M19T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84AC	1275 (580)	Indoor–Outdoor	Y38M19T75A ^②

380 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70D	116 (53)	Indoor–Outdoor	Y38G28T03A ^①
6	—	2 at -5%	EPT	115	FR200	70F	165 (75)	Indoor–Outdoor	Y38G28T06A ^①
9	—	2 at -5%	EPT	115	FR103	70D	185 (84)	Indoor–Outdoor	Y38G28T09A ^①
15	—	2 at -5%	EPT	115	FR95	70D	275 (125)	Indoor–Outdoor	Y38G28T15A ^①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84H	422 (191)	Indoor–Outdoor	Y38M28T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84R	660 (299)	Indoor–Outdoor	Y38M28T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84R	1275 (580)	Indoor–Outdoor	Y38M28T75A ^②

Notes

① T-T (Scott T) connected secondary.

② Floor-mount only.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Encapsulated—Type EPT, 60 Hz

380 Delta Volts to 220Y/127 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70F	116 (53)	Indoor-Outdoor	Y38G31T03A ①
6	—	2 at -5%	EPT	115	FR200	70F	165 (75)	Indoor-Outdoor	Y38G31T06A ①
9	—	2 at -5%	EPT	115	FR103	70M	195 (89)	Indoor-Outdoor	Y38G31T09A ①
15	—	2 at -5%	EPT	115	FR95	70F	275 (125)	Indoor-Outdoor	Y38G31T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84R	422 (191)	Indoor-Outdoor	Y38M31T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84R	660 (299)	Indoor-Outdoor	Y38M31T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84R	1275 (580)	Indoor-Outdoor	Y38M31T75A ②

380 Delta Volts to 220 Delta Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	74K	116 (53)	Indoor-Outdoor	Y38G25T03A ①
6	—	2 at -5%	EPT	115	FR200	74K	180 (82)	Indoor-Outdoor	Y38G25T06A ①
9	—	2 at -5%	EPT	115	FR103	74K	195 (89)	Indoor-Outdoor	Y38G25T09A ①
15	—	2 at -5%	EPT	115	FR95	74K	275 (125)	Indoor-Outdoor	Y38G25T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	③	422 (191)	Indoor-Outdoor	Y38M25T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	③	660 (299)	Indoor-Outdoor	Y38M25T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	③	1275 (580)	Indoor-Outdoor	Y38M25T75A ②

380 Delta Volts to 380Y/220 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70D	116 (53)	Indoor-Outdoor	Y38G37T03A ①
6	—	2 at -5%	EPT	115	FR200	70D	165 (75)	Indoor-Outdoor	Y38G37T06A ①
9	—	2 at -5%	EPT	115	FR103	70D	180 (82)	Indoor-Outdoor	Y38G37T09A ①
15	—	2 at -5%	EPT	115	FR95	70D	275 (125)	Indoor-Outdoor	Y38G37T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84H	422 (191)	Indoor-Outdoor	Y38M37T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84H	660 (299)	Indoor-Outdoor	Y38M37T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84H	1275 (580)	Indoor-Outdoor	Y38M37T75A ②

380 Delta Volts to 480Y/277 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70F	116 (53)	Indoor-Outdoor	Y38G47T03A ①
6	—	2 at -5%	EPT	115	FR200	70F	180 (82)	Indoor-Outdoor	Y38G47T06A ①
9	—	2 at -5%	EPT	115	FR103	70F	166 (75)	Indoor-Outdoor	Y38G47T09A ①
15	—	2 at -5%	EPT	115	FR95	70F	275 (125)	Indoor-Outdoor	Y38G47T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84AB	422 (191)	Indoor-Outdoor	Y38M47T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84AB	660 (299)	Indoor-Outdoor	Y38M47T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84AB	1275 (580)	Indoor-Outdoor	Y38M47T75A ②

Notes

- ① T-T (Scott T) connected secondary.
- ② Floor-mount only.
- ③ Refer to your Eaton sales office.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Encapsulated—Type EPT, 60 Hz

2

416 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70V	116 (53)	Indoor-Outdoor	Y43G28T03A ①
6	—	2 at -5%	EPT	115	FR200	70V	175 (79)	Indoor-Outdoor	Y43G28T06A ①
9	—	2 at -5%	EPT	115	FR103	70V	190 (86)	Indoor-Outdoor	Y43G28T09A ①
15	—	2 at -5%	EPT	115	FR95	70V	275 (125)	Indoor-Outdoor	Y43G28T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84I	422 (191)	Indoor-Outdoor	Y43M28T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84I	660 (299)	Indoor-Outdoor	Y43M28T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84I	1275 (580)	Indoor-Outdoor	Y43M28T75A ②

440 Delta Volts to 220Y/127 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70G	116 (53)	Indoor-Outdoor	Y44G31T03A ①
6	—	2 at -5%	EPT	115	FR200	70G	165 (75)	Indoor-Outdoor	Y44G31T06A ①
9	—	2 at -5%	EPT	115	FR103	70G	166 (75)	Indoor-Outdoor	Y44G31T09A ①
15	—	2 at -5%	EPT	115	FR95	70G	275 (125)	Indoor-Outdoor	Y44G31T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84O	422 (191)	Indoor-Outdoor	Y44M31T30A ②
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84O	660 (299)	Indoor-Outdoor	Y44M31T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84O	1275 (580)	Indoor-Outdoor	Y44M31T75A ②

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70A	116 (52)	Indoor-Outdoor	Y48G28T03N ①
6	—	2 at -5%	EPT	115	FR200	70A	165 (75)	Indoor-Outdoor	Y48G28T06N ①
6	2 at +2.5%	2 at -2.5%	EPT	115	FR200	72B	165 (75)	Indoor-Outdoor	Y48D28T06N ①
9	—	2 at -5%	EPT	115	FR103	70A	166 (75)	Indoor-Outdoor	Y48G28T09N ①
9	—	4 at -2.5%	EPT	115	FR103	503A	185 (84)	Indoor-Outdoor	Y48J28T09N ①
9	2 at +2.5%	2 at -2.5%	EPT	115	FR103	72B	185 (84)	Indoor-Outdoor	Y48D28T09N ①
15	—	2 at -5%	EPT	115	FR95	70A	275 (125)	Indoor-Outdoor	Y48G28T15N ①
15	—	4 at -2.5%	EPT	115	FR95	503A	275 (125)	Indoor-Outdoor	Y48J28T15N ①
15	2 at +2.5%	2 at -2.5%	EPT	115	FR95	72B	275 (125)	Indoor-Outdoor	Y48D28T15N ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M28T30N
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	720 (327)	Indoor-Outdoor	Y48M28T45N
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84A	1275 (580)	Indoor-Outdoor	Y48M28T75N ②

480 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	2 at -2.5%	EPT	115	FR95	72B	300 (136)	Indoor-Outdoor	Y48D28T15CU ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	505 (230)	Indoor-Outdoor	Y48M28T30CU
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	810 (368)	Indoor-Outdoor	Y48M28T45CU
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84A	1450 (659)	Indoor-Outdoor	Y48M28T75CU ②③

Notes

① T-T (Scott T) connected secondary.

② Floor-mount only.

③ Not CSA certified.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Encapsulated—Type EPT, 60 Hz

480 Delta Volts to 208Y/120 Volts Stainless Steel ③

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70A	116 (53)	Indoor-Outdoor	Y48G28T03SS ①
6	2 at +2.5%	2 at -2.5%	EPT	115	FR200	72B	175 (79)	Indoor-Outdoor	Y48D28T06SS ①
9	2 at +2.5%	2 at -2.5%	EPT	115	FR103	72B	185 (84)	Indoor-Outdoor	Y48D28T09SS ①
15	2 at +2.5%	2 at -2.5%	EPT	115	FR95	72B	275 (125)	Indoor-Outdoor	Y48D28T15SS ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M28T30SS
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	660 (299)	Indoor-Outdoor	Y48M28T45SS
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84A	1275 (580)	Indoor-Outdoor	Y48M28T75SS ②

480 Delta Volts to 208Y/120 Volts Stainless Steel—Copper Windings ③

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	2 at -2.5%	EPT	115	FR95p	72B	275 (125)	Indoor-Outdoor	Y48D28T15CUSS ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243p	84A	504 (229)	Indoor-Outdoor	Y48M28T30CUSS
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244p	84A	810 (368)	Indoor-Outdoor	Y48M28T45CUSS

480 Delta Volts to 220Y/127 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70K	116 (53)	Indoor-Outdoor	Y48G31T03A ①
6	—	2 at -5%	EPT	115	FR200	70K	175 (79)	Indoor-Outdoor	Y48G31T06A ①
9	—	2 at -5%	EPT	115	FR103	70A	185 (84)	Indoor-Outdoor	Y48G31T09A ①
15	—	2 at -5%	EPT	115	FR95	70A	275 (125)	Indoor-Outdoor	Y48G31T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M31T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	660 (299)	Indoor-Outdoor	Y48M31T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84K	1275 (580)	Indoor-Outdoor	Y48M31T75A ②

480 Delta Volts to 240 Delta Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	74A	116 (52)	Indoor-Outdoor	Y48G24T03N ①④
6	—	2 at -5%	EPT	115	FR200	74A	165 (75)	Indoor-Outdoor	Y48G24T06N ①④
9	—	4 at -2.5%	EPT	115	FR103	73A	185 (84)	Indoor-Outdoor	Y48J24T09N ①④
15	—	4 at -2.5%	EPT	115	FR95	73A	275 (125)	Indoor-Outdoor	Y48J24T15N ①④
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	85A	422 (191)	Indoor-Outdoor	Y48M24T30N ④
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	85A	660 (299)	Indoor-Outdoor	Y48M24T45N ④

Notes

- ① T-T connected secondary.
- ② Floor-mount only.
- ③ NEMA 3R, 304 stainless steel enclosure; 316 stainless steel enclosure available.
- ④ Do not include 120 volt lighting tap.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Encapsulated—Type EPT, 60 Hz

2

480 Delta Volts to 380Y/220 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70A	116 (53)	Indoor-Outdoor	Y48G37T03A ①
6	—	2 at -5%	EPT	115	FR200	70R	165 (75)	Indoor-Outdoor	Y48G37T06A ①
9	—	2 at -5%	EPT	115	FR103	70R	185 (84)	Indoor-Outdoor	Y48G37T09A ①
15	—	2 at -5%	EPT	115	FR95	70R	275 (125)	Indoor-Outdoor	Y48G37T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M37T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	660 (299)	Indoor-Outdoor	Y48M37T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84A	1275 (580)	Indoor-Outdoor	Y48M37T75A ②

480 Delta Volts to 380 Delta Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	74B	116 (53)	Indoor-Outdoor	Y48G38T03A ①
6	—	2 at -5%	EPT	115	FR200	74B	165 (75)	Indoor-Outdoor	Y48G38T06A ①
9	—	2 at -5%	EPT	115	FR103	74B	185 (84)	Indoor-Outdoor	Y48G38T09A ①
15	—	2 at -5%	EPT	115	FR95	74A	275 (125)	Indoor-Outdoor	Y48G38T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	85A	422 (191)	Indoor-Outdoor	Y48M38T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	85A	660 (299)	Indoor-Outdoor	Y48M38T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	85A	1275 (580)	Indoor-Outdoor	Y48M38T75A ②

480 Delta Volts to 416Y/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR200	70A	165 (75)	Indoor-Outdoor	Y48G51T03A ①
6	—	2 at -5%	EPT	115	FR200	70A	185 (84)	Indoor-Outdoor	Y48G51T06A ①
9	—	2 at -5%	EPT	115	FR103	70S	185 (84)	Indoor-Outdoor	Y48G51T09A ①
15	—	2 at -5%	EPT	115	FR95	70S	275 (125)	Indoor-Outdoor	Y48G51T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M51T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	660 (299)	Indoor-Outdoor	Y48M51T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84A	1275 (580)	Indoor-Outdoor	Y48M51T75A ②

480 Delta Volts to 440Y/254 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	70A	116 (53)	Indoor-Outdoor	Y48G35T03A ①
6	—	2 at -5%	EPT	115	FR200	70A	185 (84)	Indoor-Outdoor	Y48G35T06A ①
9	—	2 at -5%	EPT	115	FR103	70A	185 (84)	Indoor-Outdoor	Y48G35T09A ①
15	—	2 at -5%	EPT	115	FR95	70A	275 (125)	Indoor-Outdoor	Y48G35T15A ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M35T30A
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	660 (299)	Indoor-Outdoor	Y48M35T45A
75	2 at +2.5%	4 at -2.5%	EPT	115	FR245	84A	1275 (580)	Indoor-Outdoor	Y48M35T75A ②

Notes

① T-T connected secondary.

② Floor-mount only.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Encapsulated—Type EPT, 60 Hz**480 Delta Volts to 480Y/277 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
9	2 at +2.5%	2 at -2.5%	EPT	115	FR103	72C	190 (86)	Indoor-Outdoor	Y48D47T09N ①
15	2 at +2.5%	2 at -2.5%	EPT	115	FR95	72C	275 (125)	Indoor-Outdoor	Y48D47T15N ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84A	422 (191)	Indoor-Outdoor	Y48M47T30N
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84A	660 (299)	Indoor-Outdoor	Y48M47T45N

600 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
9	—	2 at -5%	EPT	115	FR103	70B	185 (84)	Indoor-Outdoor	Y60G28T09N ①
15	—	2 at -5%	EPT	115	FR95	70B	275 (125)	Indoor-Outdoor	Y60G28T15N ①
30	2 at +2.5%	4 at -2.5%	EPT	115	FR243	84B	422 (191)	Indoor-Outdoor	Y60M28T30N
45	2 at +2.5%	4 at -2.5%	EPT	115	FR244	84B	660 (299)	Indoor-Outdoor	Y60M28T45N

Notes

① T-T connected secondary.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Shielded—Type EPT, 60 Hz

2

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	2 at +2.5%	2 at -2.5%	EPT	115	FR201	86B	116 (52)	Indoor-Outdoor	Y48D28E03A ①
6	2 at +2.5%	2 at -2.5%	EPT	115	FR200	86B	165 (75)	Indoor-Outdoor	Y48D28E06A ①
9	2 at +2.5%	2 at -2.5%	EPT	115	FR103	86B	190 (86)	Indoor-Outdoor	Y48D28E09N ①
15	2 at +2.5%	2 at -2.5%	EPT	115	FR95	86B	275 (125)	Indoor-Outdoor	Y48D28E15B ①

480 Delta Volts to 240 Delta Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	—	2 at -5%	EPT	115	FR201	88A	116 (52)	Indoor-Outdoor	Y48G24E03A ①
6	—	2 at -5%	EPT	115	FR200	88A	165 (75)	Indoor-Outdoor	Y48G24E06A ①
9	—	4 at -2.5%	EPT	115	FR103	505B	195 (89)	Indoor-Outdoor	Y48J24E09A ①
15	—	4 at -2.5%	EPT	115	FR95	505B	275 (125)	Indoor-Outdoor	Y48J24E15A ①

Notes

① T-T connected secondary.

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton encapsulated transformers, Types EP and EPT, use a NEMA 3R rated enclosure as standard.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Encapsulated units have copper leads or stabs brought out for connections. Ventilated transformers have leads brought out to aluminum pads that are pre-drilled to accept Cu/Al lugs.

Lugs are not supplied with these transformers. Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 mid-point.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to

electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-192**.

Average Sound Levels ^①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Notes

^① Currently being reviewed and revised by NEMA.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

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Motor Drive Isolation Transformers

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.

- Suitable for indoor or outdoor applications (with weathershield)
- Ventilated enclosures
- 220°C insulation system
- 150°C rise standard (self extinguishing), 115°C or 80°C rise optional
- Available in ratings from 7.5 through 1500 kVA

Application Description

Drive isolation transformers are specifically designed for use with AC and DC adjustable speed drives. Two winding drive isolation transformers provide:

- Electrical isolation between the incoming line and the drive circuitry
- Voltage conversion of input line to standard drive input voltages
- Minimized line disturbances caused by SCR (silicon controlled rectifiers) firing
- Reduced short-circuit currents and voltage line transients

Drive isolation transformers are specifically sized to the drive kVA requirements and are braced to withstand the mechanical stresses of current reversals and short circuits associated with SCR drives.

Features, Benefits and Functions

- 60 Hz operation (50/60 Hz operation available)
- Short-term overload capability as required by ANSI
- Primary and secondary terminals are front accessible for fast and easy connection
- Slotted screw mounting holes in enclosure and cover reduce installation time
- Sound dampening pads, which isolate the core and coil from the case, reduce noise levels to meet NEMA ST-20
- Core laminations of precision sheared silicon steel are hand stacked to ensure quiet operation
- Terminations are clearly marked for easy identification
- Three-phase transformers have one 5% full capacity tap above and below nominal voltage for incoming source adjustment
- Units are suitable for continuous operation in a 40°C ambient maximum
- Full current neutral
- Thermoguard protection embedded in coils of three-phase models to indicate that high temperatures (approximately 190°C) are present. Thermoguards consist of a set of NO dry contacts
- Three coil delta-wye configurations are used throughout the product line

Standards and Certifications

- ANSI C89.2
- NEMA ST-20
- UL 506
- UL 1561



Seismic Qualified

All Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number SelectionPlease refer to Section 2.7 **Page V2-T2-185**.**2****Product Selection**Additional Product Selection information begins on **Page V2-T2-187**.**Three-Phase Drive Isolation****208 Delta Volts to 460Y/266 Volts**

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	347B	158 (72)	WS38	MD075E86
7.5	11	1 at +5%	1 at -5%	150	912B	347B	176 (80)	WS38	MD11E86
10	14	1 at +5%	1 at -5%	150	912B	347B	149 (68)	WS38	MD14E86
15	20	1 at +5%	1 at -5%	150	912B	347B	240 (19)	WS38	MD20E86
20	27	1 at +5%	1 at -5%	150	912B	347B	231 (15)	WS38	MD27E86
25	34	1 at +5%	1 at -5%	150	912B	347B	310 (141)	WS38	MD34E86
30	40	1 at +5%	1 at -5%	150	912B	347B	307 (139)	WS38	MD40E86
40	51	1 at +5%	1 at -5%	150	914D	347B	480 (218)	WS39	MD51E86
50	63	1 at +5%	1 at -5%	150	914D	347B	485 (220)	WS39	MD63E86
60	75	1 at +5%	1 at -5%	150	914D	347B	482 (219)	WS39	MD75E86
75	93	1 at +5%	1 at -5%	150	915D	347B	600 (272)	WS39	MD93E86
100	118	1 at +5%	1 at -5%	150	916A	347B	658 (299)	WS19	MD118E86
125	145	1 at +5%	1 at -5%	150	916A	347B	770 (350)	WS19	MD145E86
150	175	1 at +5%	1 at -5%	150	918A	321B	1320 (599)	WS34	MD175E86
200	220	1 at +5%	1 at -5%	150	918A	321B	1436 (652)	WS34	MD220E86
250	275	1 at +5%	1 at -5%	150	918A	321B	①	WS34	MD275E86
300	330	1 at +5%	1 at -5%	150	919E	321B	①	WS35	MD330E86
400	440	1 at +5%	1 at -5%	150	920E	321B	①	WS35	MD440E86

Notes

① Contact Eaton.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Drive Isolation

230 Delta Volts to 230Y/133 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	286A	158 (72)	WS38	MD075E88
7.5	11	1 at +5%	1 at -5%	150	912B	286A	156 (71)	WS38	MD11E88
10	14	1 at +5%	1 at -5%	150	912B	286A	158 (72)	WS38	MD14E88
15	20	1 at +5%	1 at -5%	150	912B	286A	216 (98)	WS38	MD20E88
20	27	1 at +5%	1 at -5%	150	912B	286A	231 (105)	WS38	MD27E88
25	34	1 at +5%	1 at -5%	150	912B	286A	310 (141)	WS38	MD34E88
30	40	1 at +5%	1 at -5%	150	912B	286A	310 (141)	WS38	MD40E88
40	51	1 at +5%	1 at -5%	150	914D	286A	480 (218)	WS39	MD51E88
50	63	1 at +5%	1 at -5%	150	914D	286A	500 (227)	WS39	MD63E88
60	75	1 at +5%	1 at -5%	150	914D	286A	538 (244)	WS39	MD75E88
75	93	1 at +5%	1 at -5%	150	915D	286A	600 (272)	WS39	MD93E88
100	118	1 at +5%	1 at -5%	150	915D	286A	600 (272)	WS39	MD118E88
125	145	1 at +5%	1 at -5%	150	916A	286A	868 (394)	WS19	MD145E88
150	175	1 at +5%	1 at -5%	150	918A	318D	1320 (599)	WS34	MD175E88
200	220	1 at +5%	1 at -5%	150	918A	318D	1332 (605)	WS34	MD220E88
250	275	1 at +5%	1 at -5%	150	918A	318D	1350 (613)	WS34	MD275E88
300	330	1 at +5%	1 at -5%	150	919E	318D	2336 (1061)	WS35	MD330E88
400	440	1 at +5%	1 at -5%	150	920E	318D	①	WS35	MD440E88

230 Delta Volts to 460Y/266 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	347A	158 (72)	WS38	MD075E89
7.5	11	1 at +5%	1 at -5%	150	912B	347A	158 (72)	WS38	MD11E89
10	14	1 at +5%	1 at -5%	150	912B	347A	158 (72)	WS38	MD14E89
15	20	1 at +5%	1 at -5%	150	912B	347A	254 (115)	WS38	MD20E89
20	27	1 at +5%	1 at -5%	150	912B	347A	231 (105)	WS38	MD27E89
25	34	1 at +5%	1 at -5%	150	912B	347A	310 (141)	WS38	MD34E89
30	40	1 at +5%	1 at -5%	150	912B	347A	344 (156)	WS38	MD40E89
40	51	1 at +5%	1 at -5%	150	914D	347A	480 (218)	WS39	MD51E89
50	63	1 at +5%	1 at -5%	150	914D	347A	457 (207)	WS39	MD63E89
60	75	1 at +5%	1 at -5%	150	914D	347A	480 (218)	WS39	MD75E89
75	93	1 at +5%	1 at -5%	150	915D	347A	600 (272)	WS39	MD93E89
100	118	1 at +5%	1 at -5%	150	916A	347A	941 (427)	WS19	MD118E89
125	145	1 at +5%	1 at -5%	150	916A	347A	770 (350)	WS19	MD145E89
150	175	1 at +5%	1 at -5%	150	917	321A	1326 (602)	WS34	MD175E89
200	220	1 at +5%	1 at -5%	150	918A	321A	1332 (605)	WS34	MD220E89
250	275	1 at +5%	1 at -5%	150	918A	321A	1350 (613)	WS34	MD275E89
300	330	1 at +5%	1 at -5%	150	919E	321A	2400 (1090)	WS35	MD330E89
400	440	1 at +5%	1 at -5%	150	920E	321A	①	WS35	MD440E89

Notes

① Contact Eaton.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Drive Isolation

2

460 Delta Volts to 230Y/133 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	286D	193 (88)	WS38	MD075E91
7.5	11	1 at +5%	1 at -5%	150	912B	286D	158 (72)	WS38	MD11E91
10	14	1 at +5%	1 at -5%	150	912B	286D	158 (72)	WS38	MD14E91
15	20	1 at +5%	1 at -5%	150	912B	286D	216 (98)	WS38	MD20E91
20	27	1 at +5%	1 at -5%	150	912B	286D	231 (105)	WS38	MD27E91
25	34	1 at +5%	1 at -5%	150	912B	286D	340 (154)	WS38	MD34E91
30	40	1 at +5%	1 at -5%	150	912B	286D	339 (154)	WS38	MD40E91
40	51	1 at +5%	1 at -5%	150	914	286D	535 (243)	WS39	MD51E91
50	63	1 at +5%	1 at -5%	150	914D	286D	480 (218)	WS39	MD63E91
60	75	1 at +5%	1 at -5%	150	914D	286D	469 (213)	WS39	MD75E91
75	93	1 at +5%	1 at -5%	150	915D	286D	727 (330)	WS39	MD93E91
100	118	1 at +5%	1 at -5%	150	916A	286D	770 (350)	WS19	MD118E91
125	145	1 at +5%	1 at -5%	150	916A	286D	770 (350)	WS19	MD145E91
150	175	1 at +5%	1 at -5%	150	917	286D	1100 (499)	WS34	MD175E91
200	220	1 at +5%	1 at -5%	150	917	286D	1299 (590)	WS34	MD220E91
250	275	1 at +5%	1 at -5%	150	918A	286D	1596 (725)	WS34	MD275E91
300	330	1 at +5%	1 at -5%	150	919E	318E	2234 (1014)	WS35	MD330E91
400	440	1 at +5%	1 at -5%	150	919E	318E	2400 (1090)	WS35	MD440E91

460 Delta Volts to 400Y/231 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	286D	193 (88)	WS38	MD075E75
7.5	11	1 at +5%	1 at -5%	150	912B	286D	158 (72)	WS38	MD11E75
10	14	1 at +5%	1 at -5%	150	912B	286D	158 (72)	WS38	MD14E75
15	20	1 at +5%	1 at -5%	150	912B	286D	216 (98)	WS38	MD20E75
20	27	1 at +5%	1 at -5%	150	912B	286D	231 (105)	WS38	MD27E75
25	34	1 at +5%	1 at -5%	150	912B	286D	340 (154)	WS38	MD34E75
30	40	1 at +5%	1 at -5%	150	912B	286D	339 (154)	WS38	MD40E75
40	51	1 at +5%	1 at -5%	150	914D	286D	535 (243)	WS39	MD51E75
50	63	1 at +5%	1 at -5%	150	914D	286D	480 (218)	WS39	MD63E75
60	75	1 at +5%	1 at -5%	150	914D	286D	469 (213)	WS39	MD75E75
75	93	1 at +5%	1 at -5%	150	915D	286D	727 (330)	WS39	MD93E75
100	118	1 at +5%	1 at -5%	150	916A	286D	770 (350)	WS19	MD118E75
125	145	1 at +5%	1 at -5%	150	916A	286D	770 (350)	WS19	MD145E75
150	175	1 at +5%	1 at -5%	150	917	286D	1100 (499)	WS34	MD175E75
200	220	1 at +5%	1 at -5%	150	917	286D	1299 (590)	WS34	MD220E75
250	275	1 at +5%	1 at -5%	150	918A	286D	1596 (725)	WS34	MD275E75
300	330	1 at +5%	1 at -5%	150	919E	318E	2234 (1014)	WS35	MD330E75
400	440	1 at +5%	1 at -5%	150	919E	318E	2400 (1090)	WS35	MD440E75

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Drive Isolation

460 Delta Volts to 460Y/266 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	286D	164 (74)	WS38	MD075E92
7.5	11	1 at +5%	1 at -5%	150	912B	286D	161 (73)	WS38	MD11E92
10	14	1 at +5%	1 at -5%	150	912B	286D	173 (79)	WS38	MD14E92
15	20	1 at +5%	1 at -5%	150	912B	286D	231 (105)	WS38	MD20E92
20	27	1 at +5%	1 at -5%	150	912B	286D	250 (114)	WS38	MD27E92
25	34	1 at +5%	1 at -5%	150	912B	286D	310 (141)	WS38	MD34E92
30	40	1 at +5%	1 at -5%	150	912B	286D	310 (141)	WS38	MD40E92
40	51	1 at +5%	1 at -5%	150	914D	286D	503 (228)	WS39	MD51E92
50	63	1 at +5%	1 at -5%	150	914D	286D	535 (243)	WS39	MD63E92
60	75	1 at +5%	1 at -5%	150	914D	286D	535 (243)	WS39	MD75E92
75	93	1 at +5%	1 at -5%	150	916A	286D	710 (322)	WS19	MD93E92
100	118	1 at +5%	1 at -5%	150	916A	286D	770 (350)	WS19	MD118E92
125	145	1 at +5%	1 at -5%	150	916A	286D	866 (393)	WS19	MD145E92
150	175	1 at +5%	1 at -5%	150	917	286D	1100 (499)	WS34	MD175E92
200	220	1 at +5%	1 at -5%	150	917	286D	1100 (499)	WS34	MD220E92
250	275	1 at +5%	1 at -5%	150	918A	286D	1469 (667)	WS34	MD275E92
300	330	1 at +5%	1 at -5%	150	919E	318E	2587 (1174)	WS35	MD330E92
400	440	1 at +5%	1 at -5%	150	919E	318E	2500 (1135)	WS35	MD440E92

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Drive Isolation

2

480 Delta Volts to 240 Delta Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	300A	193 (88)	WS38	MD075E77
7.5	11	1 at +5%	1 at -5%	150	912B	300A	158 (72)	WS38	MD11E77
10	14	1 at +5%	1 at -5%	150	912B	300A	158 (72)	WS38	MD14E77
15	20	1 at +5%	1 at -5%	150	912B	300A	185 (84)	WS38	MD20E77
20	27	1 at +5%	1 at -5%	150	912B	300A	231 (105)	WS38	MD27E77
25	34	1 at +5%	1 at -5%	150	912B	300A	329 (149)	WS38	MD34E77
30	40	1 at +5%	1 at -5%	150	912B	300A	339 (154)	WS38	MD40E77
40	51	1 at +5%	1 at -5%	150	914D	300A	535 (243)	WS39	MD51E77
50	63	1 at +5%	1 at -5%	150	914D	300A	480 (218)	WS39	MD63E77
60	75	1 at +5%	1 at -5%	150	914D	300A	469 (213)	WS39	MD75E77
75	93	1 at +5%	1 at -5%	150	915D	300A	727 (330)	WS39	MD93E77
100	118	1 at +5%	1 at -5%	150	916A	300A	770 (350)	WS19	MD118E77
125	145	1 at +5%	1 at -5%	150	916A	300A	770 (350)	WS19	MD145E77
150	175	1 at +5%	1 at -5%	150	917	300A	1100 (499)	WS34	MD175E77
200	220	1 at +5%	1 at -5%	150	917	300A	1299 (590)	WS34	MD220E77
250	275	1 at +5%	1 at -5%	150	918A	300A	1596 (725)	WS34	MD275E77
300	330	1 at +5%	1 at -5%	150	919E	348D	2234 (1014)	WS35	MD330E77
400	440	1 at +5%	1 at -5%	150	919E	348D	2400 (1090)	WS35	MD440E77

480 Delta Volts to 480 Delta Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	300A	193 (88)	WS38	MD075E99
7.5	11	1 at +5%	1 at -5%	150	912B	300A	158 (72)	WS38	MD11E99
10	14	1 at +5%	1 at -5%	150	912B	300A	158 (72)	WS38	MD14E99
15	20	1 at +5%	1 at -5%	150	912B	300A	185 (84)	WS38	MD20E99
20	27	1 at +5%	1 at -5%	150	912B	300A	231 (105)	WS38	MD27E99
25	34	1 at +5%	1 at -5%	150	912B	300A	329 (149)	WS38	MD34E99
30	40	1 at +5%	1 at -5%	150	912B	300A	339 (154)	WS38	MD40E99
40	51	1 at +5%	1 at -5%	150	914D	300A	535 (243)	WS39	MD51E99
50	63	1 at +5%	1 at -5%	150	914D	300A	480 (218)	WS39	MD63E99
60	75	1 at +5%	1 at -5%	150	914D	300A	469 (213)	WS39	MD75E99
75	93	1 at +5%	1 at -5%	150	915D	300A	727 (330)	WS39	MD93E99
100	118	1 at +5%	1 at -5%	150	916A	300A	770 (350)	WS19	MD118E99
125	145	1 at +5%	1 at -5%	150	916A	300A	770 (350)	WS19	MD145E99
150	175	1 at +5%	1 at -5%	150	917	300A	1100 (499)	WS34	MD175E99
200	220	1 at +5%	1 at -5%	150	917	300A	1299 (590)	WS34	MD220E99
250	275	1 at +5%	1 at -5%	150	918A	300A	1596 (725)	WS34	MD275E99
300	330	1 at +5%	1 at -5%	150	919E	348D	2234 (1014)	WS35	MD330E99
400	440	1 at +5%	1 at -5%	150	919E	348D	2400 (1090)	WS35	MD440E99

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Drive Isolation

575 Delta Volts to 460Y/266 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	286H	158 (72)	WS38	MD075E95
7.5	11	1 at +5%	1 at -5%	150	912B	286H	158 (72)	WS38	MD11E95
10	14	1 at +5%	1 at -5%	150	912B	286H	158 (72)	WS38	MD14E95
15	20	1 at +5%	1 at -5%	150	912B	286H	272 (123)	WS38	MD20E95
20	27	1 at +5%	1 at -5%	150	912B	286H	266 (121)	WS38	MD27E95
25	34	1 at +5%	1 at -5%	150	912B	286H	360 (163)	WS38	MD34E95
30	40	1 at +5%	1 at -5%	150	912B	286H	310 (141)	WS38	MD40E95
40	51	1 at +5%	1 at -5%	150	914D	286H	504 (229)	WS39	MD51E95
50	63	1 at +5%	1 at -5%	150	914D	286H	506 (230)	WS39	MD63E95
60	75	1 at +5%	1 at -5%	150	914D	286H	524 (238)	WS39	MD75E95
75	93	1 at +5%	1 at -5%	150	916A	286H	730 (331)	WS19	MD93E95
100	118	1 at +5%	1 at -5%	150	916A	286H	770 (350)	WS19	MD118E95
125	145	1 at +5%	1 at -5%	150	916A	286H	770 (350)	WS19	MD145E95
150	175	1 at +5%	1 at -5%	150	917	286H	1282 (582)	WS34	MD175E95
200	220	1 at +5%	1 at -5%	150	917	286H	1201 (545)	WS34	MD220E95
250	275	1 at +5%	1 at -5%	150	923	318F	702 (319)	WS37	MD275E95
300	330	1 at +5%	1 at -5%	150	919E	318F	2263 (1027)	WS35	MD330E95
400	440	1 at +5%	1 at -5%	150	919E	318F	2400 (1090)	WS35	MD440E95

575 Delta Volts to 575Y/332 Volts

hp	kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
		FCAN	FCBN						
5	7.5	1 at +5%	1 at -5%	150	912B	286H	158 (72)	WS38	MD075E96
7.5	11	1 at +5%	1 at -5%	150	912B	286H	158 (72)	WS38	MD11E96
10	14	1 at +5%	1 at -5%	150	912B	286H	231 (105)	WS38	MD14E96
15	20	1 at +5%	1 at -5%	150	912B	286H	231 (105)	WS38	MD20E96
20	27	1 at +5%	1 at -5%	150	912B	286H	231 (105)	WS38	MD27E96
25	34	1 at +5%	1 at -5%	150	912B	286H	261 (118)	WS38	MD34E96
30	40	1 at +5%	1 at -5%	150	912B	286H	310 (141)	WS38	MD40E96
40	51	1 at +5%	1 at -5%	150	914D	286H	480 (218)	WS39	MD51E96
50	63	1 at +5%	1 at -5%	150	914D	286H	500 (227)	WS39	MD63E96
60	75	1 at +5%	1 at -5%	150	914D	286H	538 (244)	WS39	MD75E96
75	93	1 at +5%	1 at -5%	150	916A	286H	600 (272)	WS19	MD93E96
100	118	1 at +5%	1 at -5%	150	916A	286H	948 (430)	WS19	MD118E96
125	145	1 at +5%	1 at -5%	150	916A	286H	868 (394)	WS19	MD145E96
150	175	1 at +5%	1 at -5%	150	917	286H	1320 (599)	WS34	MD175E96
200	220	1 at +5%	1 at -5%	150	917	286H	1332 (605)	WS34	MD220E96
250	275	1 at +5%	1 at -5%	150	918A	318F	1350 (613)	WS34	MD275E96
300	330	1 at +5%	1 at -5%	150	919E	318F	2336 (1061)	WS35	MD330E96
400	440	1 at +5%	1 at -5%	150	919E	318F	2500 (1137)	WS35	MD440E96

Note

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

- Copper windings
- Non-standard voltages
- 50/60 Hz designs
- Delta-delta configuration
- 80°C or 115°C rise designs
- Encapsulated designs (up to 34 kVA). Thermoguards are not available on encapsulated designs
- Totally enclosed non-ventilated
- Electrostatic shields

Please refer to Section 2.7 **Page V2-T2-189.**

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton ventilated transformers, Type MD, use a NEMA 2 rated (drip-proof) enclosure as standard, and are rated NEMA 3R with the addition of weathershields.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Ventilating transformers have leads brought out to aluminum pads that are pre-drilled to accept Cu/Al lugs.

Lugs are not supplied with these transformers. Eaton recommends that external cables be rated 75°C for ventilated designs.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-192.**

Average Sound Levels ①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Notes

① Currently being reviewed and revised by NEMA.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

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Mini-Power Centers

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.

- Encapsulated design
- Suitable for indoor or outdoor applications
- 180°C insulation system
- 115°C rise standard; 80°C rise optional

Application Description

A mini-power center combines three individual components into one NEMA Type 3R enclosure: a main breaker, an encapsulated single-phase (Type EP) or three-phase (EPT) dry-type transformer, and a secondary distribution loadcenter with main breaker. Interconnecting wiring is completed at the factory. Mini-power centers are used wherever there is a 480 volt or 600 volt distribution system and loads requiring 208Y/120 volt, three-phase or 120/240 volt single-phase. Typical installations include:

- Industrial plant assembly lines
- Plant expansions
- Test equipment
- Temporary construction site power
- Sewage disposal plants
- Warehouses
- Car washes
- Parking lots
- Commercial buildings

Features, Benefits and Functions

- 60 Hz operation
- Indoor/outdoor, NEMA 3R
- Primary main breaker
- Secondary main breaker (Type BR plug-in and Type BAB bolt-on feeder breakers not included)
- All live parts enclosed for personnel safety
- Cover is hinged to prevent removal and can be padlocked
- Cores are grounded with a copper lead
- Ground bar is supplied to permit grounding of individual secondary circuits
- Neutral bar is grounded to case
- Feeder circuits can be easily added or changed using Type BR plug-in breakers and Type BR plug-in and Type BAB bolt-on
- Suitable for service entrance
- Wide range of configurations available:
 - Aluminum windings and plug-in loadcenter chassis standard
 - Copper windings and plug-in loadcenter chassis also available
 - Copper windings and bolt-on loadcenter chassis available
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL listed
- CSAT certified

**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.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-185**.

Product Selection

Additional Product Selection information begins on **Page V2-T2-187**.

Single-Phase

480 Volts to 120/240 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary ^①	Secondary	Single-Pole	Two-Pole			
3	2 at -5%	FR283	97A3K	105 (47)	EHD2015	BR215	8	4		12	P48G11S03P
5	2 at -5%	FR284	110A5K	110 (50)	EHD2020	BR225	12	6		20	P48G11S05P
7.5	2 at -5%	FR284	109A7K	125 (56)	EHD2030	BR230	12	6		30	P48G11S07P
10	2 at -5%	FR285	108A10K	180 (82)	EHD2040	BR250	12	6		40	P48G11S10P
15	2 at -5%	FR286	107A15K	215 (98)	EHD2060	BR270	20	10		60	P48G11S15P
25	2 at -5%	FR287	106A25K	373 (169)	EHD2100	BR2125	26	13		100	P48G11S25P

600 Volts to 120/240 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary ^①	Secondary	Single-Pole	Two-Pole			
5	2 at -5%	FR284	110B5K	110 (50)	FDB2015	BR225	12	6		20	P60G11S05P
7.5	2 at -5%	FR284	109B7K	125 (56)	FDB2030	BR230	12	6		30	P60G11S07P
10	2 at -5%	FR285	108B10K	180 (82)	FDB2040	BR250	12	6		40	P60G11S10P
15	2 at -5%	FR286	107B15K	215 (98)	FDB2060	BR270	20	10		60	P60G11S15P
25	2 at -5%	FR287	106B25K	373 (169)	FDB2100	BR2125	26	13		100	P60G11S25P

Three-Phase

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary	Secondary	Single-Pole	Two-Pole	Three-Pole		
15	2 at -5%	FR289A	105A15K	320 (145)	EHD3040	BR350	18	9	6	40	P48G28T15P
22.5	2 at -5%	FR290A	103A21K	565 (256)	EHD3070	BR370	18	9	6	60	P48G28T21P
30	2 at -5%	FR291A	104A30K	635 (288)	EHD3090	BR3100	24	12	8	80	P48G28T30P

600 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary	Secondary	Single-Pole	Two-Pole	Three-Pole		
15	2 at -5%	FR289A	105D15K	320 (145)	FDB3030	BR350	18	9	6	40	P60G28T15P
22.5	2 at -5%	FR290A	103B21K	565 (256)	FDB3050	BR370	18	9	6	60	P60G28T21P
30	2 at -5%	FR291A	104B30K	635 (288)	FDB3070	BR3100	24	12	8	80	P60G28T30P

Notes

① Primary breakers with higher interrupting capacity available. For HFD breaker, add suffix "H." For FD breaker, add suffix "F." For FDC breaker, add suffix "C."

② Main breakers are fixed only.

③ Combinations can be selected.

④ Feeder breakers not included. Use Eaton's Type BR.

For 304 grade stainless steel enclosure, replace 10th character of catalog number with an "SS" suffix, e.g., P48G11S03SS, or add "SS" suffix before the addition of "CUB."
 For 316 grade stainless steel enclosure, replace 10th character of catalog number with an "S6" suffix, e.g., P48G11S03S6, or add "S6" suffix before the addition of "CUB."
 For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

All Copper, Bolt-On Breaker Designs—Single-Phase

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480 Volts to 120/240 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary ^①	Secondary	Single-Pole	Two-Pole			
3	2 at -5%	FR306	97A3K	105 (47)	EHD2015L	BAB2015	8	4	12	P48G11S03CUB	
5	2 at -5%	FR307	110A5K	110 (50)	EHD2020L	BAB2025	12	6	20	P48G11S05CUB	
7.5	2 at -5%	FR307	109A7K	110 (50)	EHD2030L	BAB2030	12	6	30	P48G11S07CUB	
10	2 at -5%	FR308	108A10K	180 (82)	EHD2040L	BAB2050	12	6	40	P48G11S10CUB	
15	2 at -5%	FR309	108A15K	215 (98)	EHD2060L	BAB2070	24	12	60	P48G11S15CUB	
25	2 at -5%	FR310	106A25K	385 (175)	EHD2100L	BAB2125	26	13	100	P48G11S25CUB	

600 Volts to 120/240 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary ^①	Secondary	Single-Pole	Two-Pole			
3	2 at -5%	FR306	97B3K	105 (47)	FDB2015L	BAB2015	8	4	12	P60G11S03CUB	
5	2 at -5%	FR307	110B5K	110 (50)	FDB2020L	BAB2025	12	6	20	P60G11S05CUB	
7.5	2 at -5%	FR307	109B7K	110 (50)	FDB2030L	BAB2030	12	6	30	P60G11S07CUB	
10	2 at -5%	FR308	108B10K	180 (82)	FDB2040L	BAB2050	12	6	40	P60G11S10CUB	
15	2 at -5%	FR309	108B15K	215 (98)	FDB2060L	BAB2070	24	12	60	P60G11S15CUB	
25	2 at -5%	FR310	106B25K	385 (175)	FDB2100L	BAB2125	26	13	100	P60G11S25CUB	

Three-Phase

480 Volts to 208Y/120 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary	Secondary	Single-Pole	Two-Pole	Three-Pole		
15	2 at -5%	FR289A	105A15K	320 (145)	EHD3040L	BAB3050H	18	9	6	40	P48G28T15CUB
22.5	2 at -5%	FR290A	103A21K	565 (257)	EHD3070L	BAB3070H	18	9	6	60	P48G28T21CUB
30	2 at -5%	FR291A	104A30K	635 (288)	EHD3090L	BAB3100H	24	12	8	80	P48G28T30CUB

600 Volts to 208Y/120 Volts

kVA	Full Capacity Taps FCBN	Frame	Wiring Diagram Number	Weight Lbs (kg)	Main Circuit Breaker		Feeder Breakers Max. Number ^{②③}			Max. Amp	Style Number
					Primary	Secondary	Single-Pole	Two-Pole	Three-Pole		
15	2 at -5%	FR289A	105D15K	320 (145)	FDB3030L	BAB3050H	18	9	6	40	P60G28T15CUB
22.5	2 at -5%	FR290A	103B21K	565 (257)	FDB3050L	BAB3070H	18	9	6	60	P60G28T21CUB
30	2 at -5%	FR291A	104B30K	635 (288)	FDB3070L	BAB3100H	24	12	8	80	P60G28T30CUB

Notes

^① Primary breakers with higher interrupting capacity available. For HFD breaker, add suffix "H." For FD breaker, add suffix "F." For FDC breaker, add suffix "C."

Main breakers are fixed only. UL Listed only, not CSA.

^② Combinations can be selected.

^③ Feeder breakers not included. Use Eaton's Type BAB.

For 304 grade stainless steel enclosure, replace 10th character of catalog number with an "SS" suffix, e.g., P48G11S03SS, or add "SS" suffix before the addition of "CUB."

For 316 grade stainless steel enclosure, replace 10th character of catalog number with an "S6" suffix, e.g., P48G11S03S6, or add "S6" suffix before the addition of "CUB."

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7
Page V2-T2-189.

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Winding Terminations

Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation

will likely be higher due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

Average Sound Levels ①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Notes

① Currently being reviewed and revised by NEMA.

For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. The following pages provide listings for most standard transformer ratings and styles. For all-copper and bolt-on-breaker designs, contact Eaton.

Three-Phase Type DT-3E Totally Enclosed Non-Ventilated

2



Totally Enclosed Non-Ventilated Transformers

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.

- Suitable for indoor or outdoor applications
- Totally enclosed, non-ventilated enclosures rated NEMA 3R
- 220°C insulation system
- 150°C rise standard; 115°C or 80°C rise optional

Application Description

Totally enclosed non-ventilated dry-type transformers are for special applications, where because of adverse atmospheric conditions it is desirable to use a dry-type non-ventilated transformer vs. the ventilated standard unit, which has openings in its enclosure to allow air to flow directly over the core and coil.

In applications where the atmosphere contains conductive, corrosive, or combustible materials, which might damage a transformer, or lint and dust flyings that might block the ventilation passages, the non-ventilated transformer is highly suited. It has no openings in the enclosure. Heat is dissipated by radiating from the surface area of the enclosure. Consequently, the enclosures are larger than those of the standard ventilated type. Non-ventilated transformers are suited for application in the textile, chemical, automotive, petrochemical, foundry, cement, food, paper and other industries where the transformer is subject to spray or washdown conditions.

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Features, Benefits and Functions

- 60 Hz operation (50/60 Hz operation available)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL listed



Industry Standards

All Eaton dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE Standards.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-185**.

Product Selection

Additional Product Selection information begins on **Page V2-T2-187**.

Single-Phase—Type DS-3E, 60 Hz ^①

240 x 480 Volts to 120/240 Volts +1–5%, –2–5% at 240 Volts Primary; +2–2.5%, –4–2.5% at 480 Volts Primary

kVA	Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
15	DS-3E	150	FR817N	3XA	350 (159)	T20P11S15NV
25	DS-3E	150	FR818N	3XA	350 (159)	T20P11S25NV
37.5	DS-3E	150	FR820N	3XA	600 (274)	T20P11S37NV
50	DS-3E	150	FR820N	3XA	720 (329)	T20P11S50NV

Three-Phase—Type DT-3E, 60 Hz ^①

480 Delta Volts to 208Y/120 Volts +2–2.5% FCAN, 4–2.5% FCBN Taps

kVA	Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
15	DT-3E	150	FR914AN	280B	480 (217)	V48M28T15NV
30	DT-3E	150	FR914AN	280B	480 (217)	V48M28T30NV
45	DT-3E	150	FR915BN	280B	600 (272)	V48M28T45NV
75	DT-3E	150	FR916AN	280B	760 (344)	V48M28T75NV
112.5	DT-3E	150	FR917N	280B	1100 (499)	V48M28T12NV
150	DT-3E	150	FR918AN	280B	1300 (589)	V48M28T49NV
225	DT-3E	150	FR919EN	275A	2400 (1088)	V48M28T22NV
300	DT-3E	150	FR920EN	275A	2900 (1315)	V48M28T33NV

Notes

^① Transformers Type EPT 75 kVA and smaller three-phase, and Type EP 37.5 kVA and smaller single-phase, are furnished non-ventilated normally, as standard. See general-purpose transformers. Contact your local Eaton sales office for availability of additional totally enclosed non-ventilated transformers. Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

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Technical Data and Specifications**Frequency**

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton totally enclosed, non-ventilated transformers, Types DS-3E and DT-3E, use a NEMA 3R rated enclosure as standard.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment.

Totally enclosed non-ventilated transformers have leads brought out to aluminum pads that are pre-drilled to accept Cu/Al lugs. **Lugs are not supplied with these transformers.** Eaton recommends external cables be rated 75°C for ventilated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), or 240 (series), or 240 with a 120 mid-point.

Note: The preceding pages provide listings for most standard transformer ratings and styles. For all-copper and bolt-on-breaker designs, contact Eaton. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton.

Single-Phase Type EPZ Encapsulated



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Class I, Division 2, Groups C and D Transformers

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.

- Encapsulated design
- Suitable for indoor or outdoor applications
- Totally enclosed, non-ventilated enclosures
- 180°C insulation system
- 115°C rise standard; 80°C rise optional
- Mountable in any position indoors. Upright only outdoors
- Available in ratings up to 600 volts primary, 37.5 kVA single-phase, 75 kVA three-phase

Application Description

Type EPZ and EPTZ transformers are labeled as “Suitable for use in Class I, Division 2, Groups C and D locations, as defined by NEC Article 501, with NEC-recommended installation procedures for dry-type transformers rated under 600 volts nominal operation.”

A Class I, Division 2 location per Section 500 of the NEC is defined as:

6. A location in which volatile flammable liquids or gases are handled, processed or used, but that normally will be confined within closed containers or systems from which they can escape only in case of accidental rupture or breakdown of the container or system.
7. Or, a location where ignitable concentrations of gases or vapors are normally prevented by positive mechanical ventilation and that might become hazardous through failure of the ventilation equipment.

8. Or, a location that is adjacent to a Class I, Division 1 location and ignitable concentrations of gases or vapors might occasionally enter.

Atmospheres classified by NEC Section 500 as Group C may contain gases or vapors such as ethyl ether, ethylene, or the equivalent. Atmospheres classified as Group D may contain gases or vapors such as acetone, ammonia, benzene, butane, cyclopropane, ethanol, gasoline, hexane, methanol, methane, natural gas, naphtha, propane or the equivalent.

Features, Benefits and Functions

- NEMA 3R enclosure
- 60 Hz operation
- Aluminum windings (copper optional)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels
- Long leads to ease wiring to junction box

Standards and Certifications

- UL listed



Industry Standards

All Eaton dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE Standards.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number SelectionPlease refer to Section 2.7 **Page V2-T2-185**.**2****Product Selection**Additional Product Selection information begins on **Page V2-T2-187**.**Single-Phase—Type EPZ, 60 Hz****480 Volts to 120/240 Volts**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
	FCAN	FCBN						
0.05	—	—	EPZ	115	FR57H	524H	13 (6)	Z48N11S51A
0.75	—	—	EPZ	115	FR58H	524H	21 (10)	Z48N11S76A
1	—	—	EPZ	115	FR59H	524H	31 (14)	Z48N11S01A
1.5	—	—	EPZ	115	FR67H	524H	40 (18)	Z48N11S16A
2	—	—	EPZ	115	FR68H	524H	40 (18)	Z48N11S02A
3	—	—	EPZ	115	FR176H	524H	65 (30)	Z48N11S03A
5	—	—	EPZ	115	FR177H	524H	113 (51)	Z48N11S05A
7.5	—	—	EPZ	115	FR178H	524H	123 (56)	Z48N11S07A
10	—	—	EPZ	115	FR179H	524H	193 (88)	Z48N11S10A
15	—	—	EPZ	115	FR180H	524H	216 (98)	Z48N11S15A
25	—	—	EPZ	115	FR182H	524H	375 (170)	Z48N11S25A

Three-Phase—Type EPTZ, 60 Hz**480 Delta Volts to 208Y/120 Volts Three-Phase**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
	FCAN	FCBN						
3	—	2 at -5%	EPTZ	115	FR201H	70A	116 (53)	Z48G28T03A
6	—	2 at -5%	EPTZ	115	FR200H	70A	143 (65)	Z48G28T06A
9	—	2 at -5%	EPTZ	115	FR103H	70A	166 (75)	Z48G28T09A
15	—	2 at -5%	EPTZ	115	FR95H	70A	275 (125)	Z48G28T15A
30	—	2 at -5%	EPTZ	115	FR243H	66A	422 (191)	Z48G28T30A
45	—	2 at -5%	EPTZ	115	FR244H	66A	660 (299)	Z48G28T45A
75	—	2 at -5%	EPTZ	115	FR245H	66A	1275 (580)	Z48G28T75A ^①

480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on B Phase^②

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
	FCAN	FCBN						
6	—	2 at -5%	EPTZ	115	FR102H	95A	115 (52)	Z48G22T06A
9	—	2 at -5%	EPTZ	115	FR97H	95A	160 (73)	Z48G22T09A
15	—	2 at -5%	EPTZ	115	FR195H	95A	340 (155)	Z48G22T15A
30	—	2 at -5%	EPTZ	115	FR243H	62A	422 (191)	Z48G22T30A
45	—	2 at -5%	EPTZ	115	FR244H	62A	660 (299)	Z48G22T45A

Notes^① Floor-mount only.^② Center Tap capacity limited to 5% of rated kVA.For 316 grade stainless steel enclosure, replace 10th character of catalog number with an "SS" suffix. Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189.**

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour, and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton encapsulated transformers, Types EPZ and EPTZ, use a NEMA 3R rated enclosure.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

Winding Terminations

Lugs are not supplied with these transformers. Eaton recommends that external cables be rated 90°C sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Nominal and tap leads come out of the transformer through pipe elbows. Connections should be made to an adjacent explosion-proof junction box. Unused tap leads must be properly insulated prior to energization. EPZ and EPTZ transformers are not UL listed.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 mid-point.

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Open-Type Core and Coil Assembly Transformers

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.

- 220°C insulation system; 150°C rise standard; 115°C or 80°C optional
- Aluminum windings (copper optional)

Application Description

The basic purpose of a transformer is voltage transformation as near as practically possible to the load for economy and distribution of power. Typical loads for dry-type distribution transformers include lighting, heating, air conditioners, fans and machine tools. Such loads are found in commercial, institutional, industrial and residential structures.

Open core and coil assemblies are typically used by panel builders and equipment OEM customers who incorporate the entire transformer into their structures, making these assemblies a versatile option to purchasing a standard, enclosed transformer and discarding the unneeded enclosure parts.

Features, Benefits and Functions

- 60 Hz operation standard, 50/60 Hz operation available
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL recognized



Industry Standards

All Eaton dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE Standards.

Seismically Qualified

All Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7 **Page V2-T2-185**.

Product Selection

Additional Product Selection information begins on **Page V2-T2-187**.

Single-Phase—Type DS-3C, 60 Hz

240 x 480 Volts to 120/240 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
	FCAN	FCBN						
15	①	①	DS-3C	150	FR816C	3XA	246 (112)	T20P11S15EEZZ
25	①	①	DS-3C	150	FR818C	3XA	359 (163)	T20P11S25EEZZ
37.5	①	①	DS-3C	150	FR818C	3XA	374 (170)	T20P11S37EEZZ
50	①	①	DS-3C	150	FR819C	3XA	555 (252)	T20P11S50EEZZ

Three-Phase—Type DT-3C, 60 Hz

480 Delta Volts to 208Y/120 Volts

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Style Number
	FCAN	FCBN						
15	2 at +2.5%	4 at -2.5%	DT-3C	150	FR908S	280B	191 (87)	V48M28T15EEZZ
30	2 at +2.5%	4 at -2.5%	DT-3C	150	FR912C	280B	251 (114)	V48M28T30EEZZ
45	2 at +2.5%	4 at -2.5%	DT-3C	150	FR912C	280B	367 (167)	V48M28T45EEZZ
75	2 at +2.5%	4 at -2.5%	DT-3C	150	FR914C	280B	491 (223)	V48M28T75EEZZ
112.5	2 at +2.5%	4 at -2.5%	DT-3C	150	FR916C	280B	676 (307)	V48M28T12EEZZ
150	2 at +2.5%	4 at -2.5%	DT-3C	150	FR916C	280B	796 (362)	V48M28T49EEZZ

Notes

① 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.

Contact your local Eaton sales office for availability of additional open-type core and coil assemblies. Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

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Technical Data and Specifications**Frequency**

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour, and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Winding Terminations

Lugs are not supplied with these transformers. Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 mid-point.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-192**.

Average Sound Levels ^①**NEMA ST-20 Average Sound Level in dB**

kVA	Up to 1.2 kV		Above 1.2 kV Ventilated
	Ventilated	Encapsulated	
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

^① Currently being reviewed and revised by NEMA.

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Marine Duty Transformers

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.

Types EP, EPT

- Encapsulated design
- Suitable for indoor or outdoor applications
- Totally enclosed, non-ventilated enclosures
- Enclosures are NEMA 3R rated
- Mountable in any position indoors and upright-only outdoors
- 180°C insulation system
- 115°C rise standard; 80°C rise optional
- Copper windings standard
- Available in single-phase ratings through 37.5 kVA (EP)
- Available in three-phase ratings through 75 kVA (EPT)

Types DS-3, DT-3

- Ventilated, NEMA 2 enclosure standard
- Suitable for indoor applications; outdoors when weathershields are also installed
- Upright mounting only
- 220°C insulation system
- 115°C rise standard; 150°C or 80°C rise optional
- Copper windings standard
- Available in single-phase ratings 15–167 kVA and up to 4160 volts primary (DS-3)
- Available in three-phase ratings 15–1500 kVA and up to 4160 volts primary (DT-3)

Application Description

The basic purpose of a transformer is voltage transformation as near as practically possible to the load for economy and distribution of power. Typical loads for dry-type distribution transformers include lighting, heating, air conditioners, fans and machine tools. Such loads are found in commercial, institutional, industrial and residential structures.

Features, Benefits and Functions

- Meets ABS (American Bureau of Shipping) specification
- ABS Type Approval Certificate Number 04-TP517621-X
- 60 Hz operation
- 115°C temperature rise standard
- Copper windings standard
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL listed



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 SelectionPlease refer to Section 2.7 **Page V2-T2-185**.**2****Product Selection**Additional Product Selection information begins on **Page V2-T2-187**.**Single-Phase—Type EPM Marine Duty Encapsulated NEMA 3R, 60 Hz****240 x 480 Volts to 120/240 Volts—Copper Windings**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
0.05	None	None	EPM	115	FR52	3A	7 (3)	—	QS20N11S81CU
0.075	None	None	EPM	115	FR53	3A	7 (3)	—	QS20N11S85CU
0.1	None	None	EPM	115	FR54	3A	7 (3)	—	QS20N11S82CU
0.15	None	None	EPM	115	FR55	3A	8 (4)	—	QS20N11S83CU
0.25	None	None	EPM	115	FR56	3A	12 (5)	—	QS20N11S26CU
0.5	None	None	EPM	115	FR57	3A	13 (6)	—	QS20N11S51CU
0.75	None	None	EPM	115	FR58A	3A	21 (10)	—	QS20N11S76CU
1	None	None	EPM	115	FR59A	3A	31 (14)	—	QS20N11S01CU
1.5	None	None	EPM	115	FR67	3A	40 (18)	—	QS20N11S16CU
2	None	None	EPM	115	FR68	3A	40 (18)	—	QS20N11S02CU
3	None	None	EPM	115	FR176	3A	72 (33)	—	QS20N11S03CU
5	None	None	EPM	115	FR177	3A	125 (57)	—	QS20N11S05CU
7.5	None	None	EPM	115	FR178	3A	135 (61)	—	QS20N11S07CU
10	None	None	EPM	115	FR179	3A	203 (92)	—	QS20N11S10CU
15	None	None	EPM	115	FR180	3A	231 (105)	—	QS20N11S15CU
25	None	None	EPM	115	FR182	3A	380 (173)	—	QS20N11S25CU
37.5	None	None	EPM	115	FR300A	248A	856 (389)	—	QS20L11S37CU

Single-Phase—Type DS-3M Marine Duty Ventilated NEMA 2, 60 Hz (NEMA 3R with Weathershield Kit Installed)**240 x 480 Volts to 120/240 Volts—Copper Windings**

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	①	①	DS-3M	115	FR815	3XA	180 (82)	WS15	RT20P11F15CU ②
25	①	①	DS-3M	115	FR816	3XA	276 (125)	WS11	RT20P11F25CU ②
37.5	①	①	DS-3M	115	FR817	3XA	386 (175)	WS11	RT20P11F37CU ②
50	①	①	DS-3M	115	FR818	3XA	405 (184)	WS11	RT20P11F50CU ②
75	①	①	DS-3M	115	FR819	3XA	570 (259)	WS16	RT20P11F75CU ②
100	①	①	DS-3M	115	FR820	3XA	680 (309)	WS16	RT20P11F99CU ②

Notes

① Taps 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.

② Not suitable for installation on U.S. or U.S. territory soil. Suitable for offshore or onboard applications.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient ①

120 Volts to 120 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3M	115	816	56D15R	275 (125)	WS11	RT12M12F15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3M	115	818	56D25R	440 (200)	WS11	RT12M12F25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3M	115	818	56D37R	480 (218)	WS11	RT12M12F37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3M	115	819	56D50R	725 (329)	WS16	RT12M12F50CUEE
75	2 at +2.5%	4 at -2.5%	DS-3M	115	820	56D75R	820 (372)	WS16	RT12M11F75CUEE
100	2 at +2.5%	4 at -2.5%	DS-3M	115	821	56D100R	1150 (522)	WS13	RT12M11F99CUEE

208 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3M	115	816	260A15R	275 (125)	WS11	RT29M11F15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3M	115	818	260A25R	440 (200)	WS11	RT29M11F25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3M	115	818	260A37R	480 (218)	WS11	RT29M11F37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3M	115	819	260A50R	725 (329)	WS16	RT29M11F50CUEE
75	1 at +5%	2 at -5%	DS-3M	115	820	260A75R	820 (372)	WS16	RT29R11F75CUEE
100	1 at +5%	2 at -5%	DS-3M	115	821	260A100R	1150 (522)	WS13	RT29R11F99CUEE

240 x 480 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3M	115	816	3XA15R	264 (120)	WS11	RT20P11F15CUEE
25	②	②	DS-3M	115	818	3XA25R	420 (191)	WS11	RT20P11F25CUEE
37.5	②	②	DS-3M	115	818	3XA37R	450 (204)	WS11	RT20P11F37CUEE
50	②	②	DS-3M	115	819	3XA50R	703 (319)	WS16	RT20P11F50CUEE
75	②	②	DS-3M	115	820	3XA75R	793 (360)	WS16	RT20P11F75CUEE
100	②	②	DS-3M	115	821	3XA100R	1085 (493)	WS13	RT20P11F99CUEE

277 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3M	115	816	262C15R	275 (125)	WS11	RT27M11F15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3M	115	818	262C25R	440 (200)	WS11	RT27M11F25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3M	115	818	262C37R	480 (218)	WS11	RT27M11F37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3M	115	819	262C50R	725 (329)	WS16	RT27M11F50CUEE
75	1 at +5%	2 at -5%	DS-3M	115	820	262C75R	820 (372)	WS16	RT27M11F75CUEE
100	1 at +5%	2 at -5%	DS-3M	115	821	262C100R	1150 (522)	WS13	RT27M11F99CUEE

Notes

- ① Suitable for installation in onshore, onboard or offshore applications.
 - ② 1 at +5%, 2 at -5% at 240 volts primary; 2 at +2.5%, 4 at -2.5% at 480 volts primary.
- Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—Type DS-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient ^①

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208 x 416 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	②	②	DS-3M	115	816	3XF15R	264 (120)	WS11	RT18P11F15CUEE
25	②	②	DS-3M	115	818	3XF25R	420 (191)	WS11	RT18P11F25CUEE
37.5	②	②	DS-3M	115	818	3XF37R	450 (204)	WS11	RT18P11F37CUEE
50	②	②	DS-3M	115	819	3XF50R	703 (319)	WS16	RT18P11F50CUEE
75	②	②	DS-3M	115	820	3XF75R	793 (360)	WS16	RT18P11F75CUEE
100	②	②	DS-3M	115	821	3XF100R	1085 (493)	WS13	RT18P11F99CUEE

600 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DS-3M	115	816	262B15R	275 (125)	WS11	RT60M11F15CUEE
25	2 at +2.5%	4 at -2.5%	DS-3M	115	818	262B25R	440 (200)	WS11	RT60M11F25CUEE
37.5	2 at +2.5%	4 at -2.5%	DS-3M	115	818	262B37R	480 (218)	WS11	RT60M11F37CUEE
50	2 at +2.5%	4 at -2.5%	DS-3M	115	819	262B50R	725 (329)	WS16	RT60M11F50CUEE
75	1 at +5%	2 at -5%	DS-3M	115	820	262B75R	820 (372)	WS16	RT60M11F75CUEE
100	1 at +5%	2 at -5%	DS-3M	115	821	262B100R	1150 (522)	WS13	RT60M11F99CUEE

Notes

① Suitable for installation in onshore, onboard or offshore applications.

② 1 at +5%, 2 at -5% at 208 volts primary; 2 at +2.5%, 4 at -2.5% at 416 volts primary.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type EPTM Marine Duty Encapsulated NEMA 3R, 60 Hz

480 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	None	2 at -5%	EPTM	115	FR201	70A	132 (60)	—	LY48G28T03CU ①
6	None	2 at -5%	EPTM	115	FR200	70A	182 (83)	—	LY48G28T06CU ①
9	2 at +2.5%	2 at -2.5%	EPTM	115	FR103	72B	221 (100)	—	LY48D28T09CU ①
15	2 at +2.5%	2 at -2.5%	EPTM	115	FR95	72B	296 (135)	—	LY48D28T15CU ①
30	2 at +2.5%	4 at -2.5%	EPTM	115	FR243	84A	612 (278)	—	LY48M28T30CU
45	2 at +2.5%	4 at -2.5%	EPTM	115	FR244	84A	808 (367)	—	LY48M28T45CU
75	2 at +2.5%	4 at -2.5%	EPTM	115	FR245	84A	1450 (659)	—	LY48M28T75CU

480 Delta Volts to 240 Delta Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
3	None	2 at -5%	EPTM	115	FR201	74A	132 (60)	—	LY48G24T03CU ①
6	None	2 at -5%	EPTM	115	FR200	74A	182 (83)	—	LY48G24T06CU ①
9	None	2 at -5%	EPTM	115	FR103	74A	221 (100)	—	LY48G24T09CU ①
15	2 at +2.5%	2 at -2.5%	EPTM	115	FR243	230A	612 (278)	—	LY48D24T15CU ①

Three-Phase—Type DT-3M Marine Duty Ventilated NEMA 2, 60 Hz (NEMA 3R with Weathershield Kit Installed)

480 Delta Volts to 208Y/120 Volts—Copper Windings ②

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B15M	252 (114)	WS38	MV48M28F15CU
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B30M	299 (136)	WS38	MV48M28F30CU
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B45M	414 (188)	WS38	MV48M28F45CU
75	2 at +2.5%	4 at -2.5%	DT-3M	115	915D	280B75M	662 (301)	WS39	MV48M28F75CU
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280B112M	927 (421)	WS19	MV48M28F12CU
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280B49M	994 (451)	WS19	MV48M28F49CU
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	280B22M	1839 (835)	WS34	MV48M28F22CU
300	2 at +2.5%	4 at -2.5%	DT-3M	115	918A	280B33M	2134 (969)	WS34	MV48M28F33CU
500	2 at +2.5%	2 at -2.5%	DT-3M	115	919E	275A55M	3349 (1520)	WS35	MV48M28F55CU
15	2 at +2.5%	4 at -2.5%	DT-3M	80	912B	280B15M	295 (134)	WS38	MV48M28B15CU
30	2 at +2.5%	4 at -2.5%	DT-3M	80	912B	280B30M	367 (167)	WS38	MV48M28B30CU
45	2 at +2.5%	4 at -2.5%	DT-3M	80	915D	280B45M	585 (266)	WS39	MV48M28B45CU
75	2 at +2.5%	4 at -2.5%	DT-3M	80	916A	280B75M	903 (410)	WS19	MV48M28B75CU
112.5	2 at +2.5%	4 at -2.5%	DT-3M	80	916A	280B112M	959 (435)	WS19	MV48M28B12CU
150	2 at +2.5%	4 at -2.5%	DT-3M	80	917	280B49M	1250 (568)	WS34	MV48M28B49CU
225	2 at +2.5%	4 at -2.5%	DT-3M	80	918A	280B22M	1861 (845)	WS34	MV48M28B22CU
300	2 at +2.5%	4 at -2.5%	DT-3M	80	919E	280B33M	3600 (1634)	WS19	MV48M28B33CU

Notes

- ① T-T (Scott T) connected secondary.
- ② Not suitable for installation on U.S. or U.S. territory soil. Suitable for offshore or onboard applications.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3M Marine Duty Ventilated NEMA 2, 60 Hz (NEMA 3R with Weathershield Kit Installed)**480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap—Copper Windings** ①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B15M	252 (114)	WS38	MV48M22F15CU
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B30M	301 (137)	WS38	MV48M22F30CU
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B45M	382 (173)	WS38	MV48M22F45CU
75	2 at +2.5%	4 at -2.5%	DT-3M	115	915D	282B75M	550 (250)	WS39	MV48M22F75CU
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	282B112M	675 (306)	WS19	MV48M22F12CU
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	282B49M	860 (390)	WS19	MV48M22F49CU
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	282B22M	1839 (835)	WS34	MV48M22F22CU
300	2 at +2.5%	4 at -2.5%	DT-3M	115	918A	282B33M	2134 (969)	WS34	MV48M22F33CU
500	2 at +2.5%	2 at -2.5%	DT-3M	115	919E	293A55M	3349 (1520)	WS35	MV48D22F55CU

480 Delta Volts to 120 Delta Volts—Copper Windings ①

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	295B15M	252 (114)	WS38	MV48M12F15CU
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	295B30M	301 (137)	WS38	MV48M12F30CU
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	295B45M	382 (173)	WS38	MV48M12F45CU
75	2 at +2.5%	4 at -2.5%	DT-3M	115	915D	295B75M	550 (250)	WS39	MV48M12F75CU

Three-Phase—Type DT-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient**208 Delta Volts to 208Y/120 Volts—Copper Windings** ②

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280E15M	265 (120)	WS38	MV29M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280E30M	475 (215)	WS38	MV29M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280E45M	475 (216)	WS38	MV29M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280E75M	700 (318)	WS39	MV29M28F75CUEE
112.5	1 at +5%	2 at -5%	DT-3M	115	916A	280E112M	935 (424)	WS19	MV29M28F12CUEE
150	1 at +5%	2 at -5%	DT-3M	115	916A	280E150M	1274 (578)	WS19	MV29M28F49CUEE
225	1 at +5%	2 at -5%	DT-3M	115	917	280E225M	1743 (791)	WS34	MV29M28F22CUEE
300	1 at +5%	2 at -5%	DT-3M	115	919E	280E300M	2350 (1067)	WS35	MV29M28F33CUEE
500	1 at +5%	2 at -5%	DT-3M	115	920E	280E500M	3690 (1675)	WS35	MV29M28F55CUEE

Notes

① Not suitable for installation on U.S. or U.S. territory soil. Suitable for offshore or onboard applications.

② Suitable for installation in onshore, onboard or offshore applications.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient^①

208 Delta Volts to 480Y/277 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	342B15M	265 (120)	WS38	MV29M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	342B30M	475 (215)	WS38	MV29M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	342B45M	475 (216)	WS38	MV29M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	342B75M	700 (318)	WS39	MV29M47F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	342B112M	935 (424)	WS19	MV29M47F12CUEE
150	1 at +5%	2 at -5%	DT-3M	115	916A	351A150M	1274 (578)	WS19	MV29R47F49CUEE
225	1 at +5%	2 at -5%	DT-3M	115	917	333B225M	1743 (791)	WS34	MV29R47F22CUEE
300	1 at +5%	2 at -5%	DT-3M	115	919E	333B300M	2350 (1067)	WS35	MV29R47F33CUEE
500	1 at +5%	2 at -5%	DT-3M	115	920E	333B500M	3690 (1675)	WS35	MV29R47F55CUEE

240 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280C15M	265 (120)	WS38	MV24M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280C30M	475 (215)	WS38	MV24M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280C45M	475 (216)	WS38	MV24M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280C75M	700 (318)	WS39	MV24M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280C112M	1009 (458)	WS19	MV24M28F12CUEE
150	1 at +5%	2 at -5%	DT-3M	115	916A	289A150M	1274 (578)	WS19	MV24R28F49CUEE
225	1 at +5%	2 at -5%	DT-3M	115	917	289A225M	1743 (791)	WS34	MV24R28F22CUEE
300	1 at +5%	2 at -5%	DT-3M	115	919E	289A300M	2350 (1067)	WS35	MV24R28F33CUEE
500	1 at +5%	2 at -5%	DT-3M	115	920E	289A500M	3690 (1675)	WS35	MV24R28F55CUEE

240 Delta Volts to 480Y/277 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	342L15M	265 (120)	WS38	MV24M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	342L30M	475 (215)	WS38	MV24M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	342L45M	475 (216)	WS38	MV24M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	342L75M	700 (318)	WS39	MV24M47F75CUEE
112.5	1 at +5%	2 at -5%	DT-3M	115	916A	351C112M	1009 (458)	WS19	MV24R47F12CUEE
150	1 at +5%	2 at -5%	DT-3M	115	916A	351C150M	1274 (578)	WS19	MV24R47F49CUEE
225	1 at +5%	2 at -5%	DT-3M	115	917	333A225M	1743 (791)	WS34	MV24R47F22CUEE
300	1 at +5%	2 at -5%	DT-3M	115	919E	333A300M	2350 (1067)	WS35	MV24R47F33CUEE
500	1 at +5%	2 at -5%	DT-3M	115	920E	333A500M	3690 (1675)	WS35	MV24R47F55CUEE

Notes

① Suitable for installation in onshore, onboard or offshore applications.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient^①

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440 Delta Volts to 220Y/127 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280J15M	256 (116)	WS38	MV44M31F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280J30M	337 (153)	WS38	MV44M31F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280J45M	446 (202)	WS38	MV44M31F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280J75M	662 (301)	WS39	MV44M31F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280J112M	914 (415)	WS19	MV44M31F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280J150M	1132 (514)	WS19	MV44M31F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	280J225M	2036 (924)	WS34	MV44M31F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	275F300M	2325 (1056)	WS37	MV44M31F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	275F500M	3681 (1671)	WS35	MV44M31F55CUEE

480 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B15M	256 (116)	WS38	MV48M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B30M	337 (153)	WS38	MV48M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B45M	446 (202)	WS38	MV48M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280B75M	662 (301)	WS39	MV48M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280B112M	914 (415)	WS19	MV48M28F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280B150M	1132 (514)	WS19	MV48M28F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	275A225M	2036 (924)	WS34	MV48M28F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	275A300M	2325 (1056)	WS37	MV48M28F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	275A500M	3681 (1671)	WS35	MV48M28F55CUEE

480 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B^②—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B15M	248 (113)	WS38	MV48M22F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B30M	410 (186)	WS38	MV48M22F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B45M	445 (202)	WS38	MV48M22F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	282B75M	750 (341)	WS39	MV48M22F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	282B112M	963 (437)	WS19	MV48M22F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	282B150M	1236 (561)	WS19	MV48M22F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	282B225M	2100 (953)	WS34	MV48M22F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	282B300M	2600 (1180)	WS37	MV48M22F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	291A500M	3700 (1680)	WS35	MV48M22F55CUEE

Notes

① Suitable for installation in onshore, onboard or offshore applications.

② Lighting tap limited to 5% of nameplate full load capacity.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient^①

480 Delta Volts to 480Y/277 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B15M	258 (117)	WS38	MV48M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B30M	401 (182)	WS38	MV48M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280B45M	455 (207)	WS38	MV48M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280B75M	678 (308)	WS39	MV48M47F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280B112M	676 (307)	WS19	MV48M47F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280B150M	1249 (567)	WS19	MV48M47F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	275A225M	2107 (957)	WS34	MV48M47F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	275A300M	2418 (1098)	WS37	MV48M47F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	275A500M	3800 (1725)	WS35	MV48M47F55CUEE

600 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280A15M	269 (122)	WS38	MV60M28F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280A30M	354 (161)	WS38	MV60M28F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280A45M	468 (213)	WS38	MV60M28F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280A75M	695 (316)	WS39	MV60M28F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280A112M	960 (436)	WS19	MV60M28F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280A150M	1189 (540)	WS19	MV60M28F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	280A225M	2138 (971)	WS34	MV60M28F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	280A300M	2441 (1108)	WS37	MV60M28F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	280A500M	3865 (1755)	WS35	MV60M28F55CUEE

600 Delta Volts to 240 Delta Volts with 120 Volt Lighting Tap on Phase B^②—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B15M	269 (122)	WS38	MV60M22F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B30M	354 (161)	WS38	MV60M22F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	282B45M	468 (213)	WS38	MV60M22F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	282B75M	695 (316)	WS39	MV60M22F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	282B112M	960 (436)	WS19	MV60M22F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	282B150M	1189 (540)	WS19	MV60M22F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	282B225M	2138 (971)	WS34	MV60M22F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	282B300M	2441 (1108)	WS37	MV60M22F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	291A500M	3865 (1755)	WS35	MV60M22F55CUEE

Notes

① Suitable for installation in onshore, onboard or offshore applications.

② Lighting tap limited to 5% of nameplate full load capacity.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—Type DT-3M Marine Duty 60 Hz NEMA TP-1 Energy-Efficient^①

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600 Delta Volts to 480Y/277 Volts—Copper Windings

kVA	Full Capacity Taps		Type	°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN							
15	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280A15M	284 (129)	WS38	MV60M47F15CUEE
30	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280A30M	441 (200)	WS38	MV60M47F30CUEE
45	2 at +2.5%	4 at -2.5%	DT-3M	115	912B	280A45M	501 (227)	WS38	MV60M47F45CUEE
75	2 at +2.5%	4 at -2.5%	DT-3M	115	914D	280A75M	746 (339)	WS39	MV60M47F75CUEE
112.5	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280A112M	744 (338)	WS19	MV60M47F12CUEE
150	2 at +2.5%	4 at -2.5%	DT-3M	115	916A	280A150M	1374 (624)	WS19	MV60M47F49CUEE
225	2 at +2.5%	4 at -2.5%	DT-3M	115	917	280A225M	2318 (1052)	WS34	MV60M47F22CUEE
300	2 at +2.5%	4 at -2.5%	DT-3M	115	923	280A300M	2660 (1208)	WS37	MV60M47F33CUEE
500	2 at +2.5%	4 at -2.5%	DT-3M	115	919E	280A500M	4180 (1898)	WS35	MV60M47F55CUEE

Notes

① Suitable for installation in onshore, onboard or offshore applications.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

Technical Data and Specifications

Frequency

Eaton standard dry-type distribution transformers are designed for 60 Hz operation. Transformers required for other frequencies are available and must be specifically designed.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour, and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton ventilated transformers Types DS-3M and DT-3M use a NEMA 2 rated (drip-proof) enclosure as standard, and are rated NEMA 3R with the addition of weathershields. Eaton encapsulated transformers Types EPM and EPTM use a NEMA 3R rated enclosure.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Encapsulated units have copper leads or stabs brought out for connections. Ventilated transformers have leads brought out to aluminum pads that are pre-drilled to accept Cu/Al lugs.

Lugs are not supplied with these transformers. Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an “x” or “/” between the voltage ratings, such as voltages of “120/240” or “240 x 480.” If the series-multiple winding is designated by an “x,” the winding can be connected only for a series or parallel. With the “/” designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 mid-point.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and

environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-192**.

Average Sound Levels ⓘ

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

ⓘ Currently being reviewed and revised by NEMA.

Type EP

2



Buck-Boost and Low Voltage Lighting Transformers

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.

Types EP, EPT

- Encapsulated design
- Suitable for indoor or outdoor applications
- Totally enclosed, non-ventilated enclosures
- Enclosures are NEMA 3R rated
- Mountable in any position indoors and upright-only outdoors
- 180°C insulation system
- 115°C rise standard; 80°C rise optional
- Available in single-phase ratings through 7.5 kVA

Application Description

A buck-boost transformer is used to provide an economical method of correcting a lower or higher voltage rating more suitable for efficient operation of electrical equipment.

Type EP buck-boost transformers are small kVA, single-phase transformers with dual primary and dual secondary windings, and are usually connected as autotransformers by using one unit for single-phase applications and either two or three units banked for three-phase operation. They are primarily used for motor operation and should not be used for motor control circuits, to correct fluctuating line voltage or to obtain a neutral on a delta system. Buck-boost transformers are ideally suited for use with low voltage lighting systems, such as outdoor lighting.

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Features, Benefits and Functions

- 60 Hz operation
- 600 volt class insulation
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels

Standards and Certifications

- UL listed
- CSA certified



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.

Seismically Qualified

Eaton-manufactured dry-type distribution transformers are seismically qualified, and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Catalog Number Selection

Please refer to Section 2.7
Page V2-T2-185.

Product Selection

For quick selection data, refer to the tables on this and the following pages.

Selection Requirements

You should have the following information before selecting a buck-boost transformer:

Line Voltage

The voltage that you want to buck (decrease) or boost (increase). This can be found by measuring the supply line voltage with a voltmeter.

Load Voltage

The voltage at which your equipment is designed to operate. This is listed on the nameplate of the load equipment.

Load Amperes or Load kVA

You do not need to know both—one or the other is sufficient for selection purposes. This information usually can be found on the nameplate of the equipment that you want to operate.

Frequency

The supply line frequency must be the same as the frequency of the equipment to be operated—Eaton’s buck-boost transformers operate at 60 Hz only.

Phase

The supply line should be the same as the equipment to be operated—either single- or three-phase.

Transformer Interconnection

For three-phase applications, interconnections of transformers should be made in a junction box. Two or three transformers may be used depending on an open delta (2) or wye (3) connection.

5-Step Selector

The tables that follow will simplify the selection of the buck-boost transformers. There are no calculations needed; simply follow these five steps:

1. Refer to the table having the same output voltage as the equipment you want to operate. For example, if you are installing a 240 volt 6 kVA single-phase load use selection table on the page.
2. Select the available line voltage across the top of the chart that is closest to the actual supply voltage. Therefore, for example, if the available line voltage is 213 volts, use the 212 volt column.
3. Read down the column until you reach an output kVA or amps rating equal to or greater than the load requirements. Since 6 kVA, in the example, is not listed, use the next higher rating, or 7.5 kVA.
4. Read across to the far left columns for the catalog number and quantity of transformers for your application. In this case, you will need one (1) catalog number S10N06P01P.
5. Connect the buck-boost transformer(s) you have selected in accordance with the connection diagram specified at the bottom of the available line voltage column. In this example, Diagram “F” would be used.

Note: For single-phase connections and three-phase open delta connections, inputs and outputs may be reversed. kVA capacity remains constant.

Additional Product Selection information begins on **Page V2-T2-187**.

120 x 240 Volts to 12/24 Volts

kVA	°C Temp. Rise	Frame	Weight Lbs (kg)	Style Number
0.05	115	FR52	7 (3)	S10N04A81N
0.10	115	FR54	7 (3)	S10N04A82N
0.15	115	FR55	8 (4)	S10N04A83N
0.25	115	FR57P	12 (5)	S10N04P26P
0.50	115	FR57P	13 (5)	S10N04P51P
0.75	115	FR58AP	21 (10)	S10N04P76P
1	115	FR67P	31 (14)	S10N04P01P
1.5	115	FR67P	40 (18)	S10N04P16P
2	115	FR68P	40 (18)	S10N04P02P
3	115	FR176	65 (29)	S10N04A03N
5	115	FR177	113 (51)	S10N04A05N
7.5	115	FR178	123 (55)	S10N04A07N

120 x 240 Volts to 16/32 Volts

kVA	°C Temp. Rise	Frame	Weight Lbs (kg)	Style Number
0.05	115	FR52	7 (3)	S10N06A81N
0.10	115	FR54	7 (3)	S10N06A82N
0.15	115	FR55	8 (4)	S10N06A83N
0.25	115	FR57P	12 (5)	S10N06P26P
0.50	115	FR57P	13 (5)	S10N06P51P
0.75	115	FR58AP	21 (10)	S10N06P76P
1	115	FR67P	31 (14)	S10N06P01P
1.5	115	FR67P	40 (18)	S10N06P16P
2	115	FR68P	40 (18)	S10N06P02P
3	115	FR176	65 (29)	S10N06A03N
5	115	FR177	113 (51)	S10N06A05N
7.5	115	FR178	123 (55)	S10N06A07N

240 x 480 Volts to 24/48 Volts

kVA	°C Temp. Rise	Frame	Weight Lbs (kg)	Style Number
0.05	115	FR52	7 (3)	S20N08A81N
0.10	115	FR54	7 (3)	S20N08A82N
0.15	115	FR55	8 (4)	S20N08A83N
0.25	115	FR57P	12 (5)	S20N08P26P
0.50	115	FR57P	13 (5)	S20N08P51P
0.75	115	FR58AP	21 (10)	S20N08P76P
1	115	FR67P	31 (14)	S20N08P01P
1.5	115	FR67P	40 (18)	S20N08P16P
2	115	FR68P	40 (18)	S20N08P02P
3	115	FR176	65 (29)	S20N08A03N
5	115	FR177	113 (51)	S20N08A05N
7.5	115	FR178	123 (55)	S20N08A07N

Note

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase 115 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		96		100		102		Style Number		
		84 Output kVA	84 Amps	91 Output kVA	91 Amps	Output kVA	Amps	Output kVA	Amps			
1	0.05	—	—	—	—	0.24	2.09	—	—	—	S10N04A81N	
1	0.05	0.13	1.14	0.18	1.56	—	—	0.31	2.70	0.36	3.13	S10N06A81N
1	0.10	—	—	—	—	0.48	4.17	—	—	—	—	S10N04A82N
1	0.10	0.26	2.29	0.36	3.12	—	—	0.62	5.41	0.72	6.25	S10N06A82N
1	0.15	—	—	—	—	0.72	6.25	—	—	—	—	S10N04A83N
1	0.15	0.39	3.44	0.54	4.69	—	—	0.93	8.12	1.08	9.37	S10N06A83N
1	0.25	—	—	—	—	1.2	10.4	—	—	—	—	S10N04P26P
1	0.25	0.659	5.73	0.899	7.81	—	—	1.56	13.5	1.8	15.6	S10N06P26P
1	0.50	—	—	—	—	2.4	20.8	—	—	—	—	S10N04P51P
1	0.50	1.32	11.5	1.8	15.6	—	—	3.11	27.1	3.59	31.2	S10N06P51P
1	0.75	—	—	—	—	3.6	31.2	—	—	—	—	S10N04P76P
1	0.75	1.98	17.2	2.7	23.4	—	—	4.67	40.6	5.39	46.8	S10N06P76P
1	1	—	—	—	—	4.79	41.7	—	—	—	—	S10N04P01P
1	1	2.64	22.9	3.59	31.2	—	—	6.23	54.1	7.19	62.5	S10N06P01P
1	1.5	—	—	—	—	7.2	62.5	—	—	—	—	S10N04P16P
1	1.5	3.95	34.4	5.39	46.9	—	—	9.34	81.2	10.8	93.7	S10N06P16P
1	2	—	—	—	—	9.58	83.3	—	—	—	—	S10N04P02P
1	2	5.27	45.8	7.19	62.5	—	—	12.5	108	14.4	125	S10N06P02P
1	3	—	—	—	—	14.37	125.1	—	—	—	—	S10N04A03N
1	3	7.92	68.7	10.77	93.6	—	—	18.69	162.3	21.57	187.5	S10N06A03N
1	5	—	—	—	—	23.95	208.5	—	—	—	—	S10N04A05N
1	5	13.2	115	18	156	—	—	31.15	270.5	35.95	312.5	S10N06A05N
1	7.5	—	—	—	—	36	312	—	—	—	—	S10N04A07N
1	7.5	19.8	172	27	234	—	—	46.7	406	53.9	468	S10N06A07N
Connection Diagram ②		D		B		B		C		A		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase 115 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		105		127		130		138		146		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.05	0.48	4.17	0.54	4.58	—	—	0.29	2.5	—	—	S10N04A81N
1	0.05	—	—	—	—	0.41	3.54	—	—	0.23	1.98	S10N06A81N
1	0.10	0.96	8.33	1.1	9.17	—	—	0.58	5.0	—	—	S10N04A82N
1	0.10	—	—	—	—	0.82	7.08	—	—	0.46	3.95	S10N06A82N
1	0.15	1.44	12.5	1.6	13.7	—	—	0.87	7.5	—	—	S10N04A83N
1	0.15	—	—	—	—	1.3	10.6	—	—	0.69	5.93	S10N06A83N
1	0.25	2.39	20.8	2.63	22.9	—	—	1.44	12.5	—	—	S10N04P26P
1	0.25	—	—	—	—	2.03	17.7	—	—	1.14	9.88	S10N06P26P
1	0.50	4.79	41.6	5.27	45.8	—	—	2.87	25	—	—	S10N04P51P
1	0.50	—	—	—	—	4.07	35.4	—	—	2.27	19.8	S10N06P51P
1	0.75	7.19	62.4	7.9	68.7	—	—	4.31	37.5	—	—	S10N04P76P
1	0.75	—	—	—	—	6.1	53.1	—	—	3.41	29.6	S10N06P76P
1	1	9.58	83.3	10.5	91.7	—	—	5.75	50	—	—	S10N04P01P
1	1	—	—	—	—	8.14	70.8	—	—	4.55	39.5	S10N06P01P
1	1.5	14.4	125	15.8	137	—	—	8.62	75	—	—	S10N04P16P
1	1.5	—	—	—	—	12.2	106	—	—	6.82	59.3	S10N06P16P
1	2	19.2	16.7	21.1	183	—	—	11.5	100	—	—	S10N04P02P
1	2	—	—	—	—	16.3	142	—	—	9.10	79.2	S10N06P02P
1	3	28.7	249.9	31.5	275.1	—	—	17.3	150	—	—	S10N04A03N
1	3	—	—	—	—	24.4	212.4	—	—	13.6	118.5	S10N06A03N
1	5	47.9	416.5	52.5	458.5	—	—	28.7	250	—	—	S10N04A05N
1	5	—	—	—	—	40.7	354	—	—	22.7	197.5	S10N06A05N
1	7.5	71.9	624	79	687	—	—	43.1	357	—	—	S10N04A07N
1	7.5	—	—	—	—	61	531	—	—	34.1	296	S10N06A07N
Connection Diagram ②		A		A		A		B		B		

Notes

① Additional wiring trough may be required.

② Refer to Page V2-T2-170 for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on Page V2-T2-213.

Single-Phase 120 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		88		95		100		104		106		Style Number
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.05	—	—	—	—	0.25	2.09	—	—	—	—	—	—	S10N04A81N
1	0.05	0.14	1.15	0.19	1.56	—	—	0.33	2.70	0.38	3.13	—	—	S10N06A81N
1	0.10	—	—	—	—	0.50	4.17	—	—	—	—	—	—	S10N04A82N
1	0.10	0.28	2.29	0.38	3.12	—	—	0.65	5.41	0.75	6.25	—	—	S10N06A82N
1	0.15	—	—	—	—	0.75	6.25	—	—	—	—	—	—	S10N04A83N
1	0.15	0.41	3.44	0.56	4.69	—	—	0.98	8.12	1.12	9.37	—	—	S10N06A83N
1	0.25	—	—	—	—	1.25	10.4	—	—	—	—	—	—	S10N04P26P
1	0.25	0.687	5.73	0.937	7.81	—	—	1.62	13.5	1.87	15.6	—	—	S10N06P26P
1	0.50	—	—	—	—	2.5	20.8	—	—	—	—	—	—	S10N04P51P
1	0.50	1.37	11.5	1.87	15.6	—	—	3.25	27.1	3.75	31.2	—	—	S10N06P51P
1	0.75	—	—	—	—	3.75	31.2	—	—	—	—	—	—	S10N04P76P
1	0.75	2.06	17.2	2.82	23.4	—	—	4.87	40.6	5.62	46.8	—	—	S10N06P76P
1	1	—	—	—	—	5	41.7	—	—	—	—	—	—	S10N04P01P
1	1	2.75	22.9	3.75	31.2	—	—	6.5	54.1	7.5	62.5	—	—	S10N06P01P
1	1.5	—	—	—	—	7.5	62.5	—	—	—	—	—	—	S10N04P16P
1	1.5	4.12	34.4	5.62	46.9	—	—	9.75	81.2	11.2	93.7	—	—	S10N06P16P
1	2	—	—	—	—	10	83.3	—	—	—	—	—	—	S10N04P02P
1	2	5.5	45.8	7.5	62.5	—	—	13	108	15	125	—	—	S10N06P02P
1	3	—	—	—	—	15	125.1	—	—	—	—	—	—	S10N04A03N
1	3	8.25	68.7	11.25	93.6	—	—	19.5	162.3	22.5	187.5	—	—	S10N06A03N
1	5	—	—	—	—	25	208.5	—	—	—	—	—	—	S10N04A05N
1	5	13.75	114.5	18.75	156	—	—	32.5	270.5	37.5	312.5	—	—	S10N06A05N
1	7.5	—	—	—	—	37.5	312	—	—	—	—	—	—	S10N04A07N
1	7.5	20.6	172	28.2	234	—	—	48.7	406	56.2	468	—	—	S10N06A07N
Connection Diagram ②		D		B		B		C		A				

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase 120 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		109		132		136		144		152		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.05	0.5	4.17	0.55	4.58	—	—	0.3	2.5	—	—	S10N04A81N
1	0.05	—	—	—	—	0.43	3.54	—	—	0.24	1.98	S10N06A81N
1	0.10	1.0	8.33	1.1	9.17	—	—	0.6	5.0	—	—	S10N04A82N
1	0.10	—	—	—	—	0.85	7.08	—	—	0.48	3.95	S10N06A82N
1	0.15	1.5	12.5	1.6	13.7	—	—	0.9	7.5	—	—	S10N04A83N
1	0.15	—	—	—	—	1.27	10.6	—	—	0.71	5.93	S10N06A83N
1	0.25	2.5	20.8	2.75	22.9	—	—	1.5	12.5	—	—	S10N04P26P
1	0.25	—	—	—	—	2.12	17.7	—	—	1.19	9.88	S10N06P26P
1	0.50	5	41.6	5.5	45.8	—	—	3	25	—	—	S10N04P51P
1	0.50	—	—	—	—	4.25	35.4	—	—	2.37	19.8	S10N06P51P
1	0.75	7.5	62.4	8.25	68.7	—	—	4.5	37.5	—	—	S10N04P76P
1	0.75	—	—	—	—	6.37	53.1	—	—	3.56	29.6	S10N06P76P
1	1	10	83.3	11	91.7	—	—	6	50	—	—	S10N04P01P
1	1	—	—	—	—	8.5	70.8	—	—	4.75	39.5	S10N06P01P
1	1.5	15	125	16.5	137	—	—	9	75	—	—	S10N04P16P
1	1.5	—	—	—	—	12.7	106	—	—	7.12	59.3	S10N06P16P
1	2	20	167	22	183	—	—	12	100	—	—	S10N04P02P
1	2	—	—	—	—	17	142	—	—	9.5	79.2	S10N06P02P
1	3	30	249.9	33	275.1	—	—	18	150	—	—	S10N04A03N
1	3	—	—	—	—	25.5	212.4	—	—	14.25	118.5	S10N06A03N
1	5	50	416.5	55	458.5	—	—	30	250	—	—	S10N04A05N
1	5	—	—	—	—	42.5	354	—	—	23.7	197.5	S10N06A05N
1	7.5	75	624	82.5	687	—	—	45	375	—	—	S10N04A07N
1	7.5	—	—	—	—	63.7	531	—	—	35.6	296	S10N06A07N
Connection Diagram ②		A		A		A		B		B		

Notes

① Additional wiring trough may be required.

② Refer to Page V2-T2-170 for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on Page V2-T2-213.

Single-Phase 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		203		207		209		216		Style Number
		199 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.05	—	—	—	—	0.43	1.88	0.48	2.08	—	—	S10N04A81N
1	0.05	0.31	1.36	0.36	1.56	—	—	—	—	0.72	3.12	S10N06A81N
1	0.10	—	—	—	—	0.86	3.75	0.96	4.17	—	—	S10N04A82N
1	0.10	0.62	2.71	0.72	3.12	—	—	—	—	1.44	6.25	S10N06A82N
1	0.15	—	—	—	—	1.29	5.62	1.44	6.25	—	—	S10N04A83N
1	0.15	0.93	4.06	1.08	4.69	—	—	—	—	2.16	9.37	S10N06A83N
1	0.25	—	—	—	—	2.15	9.37	2.39	10.4	—	—	S10N04P26P
1	0.25	1.55	6.77	1.8	7.81	—	—	—	—	3.59	15.6	S10N06P26P
1	0.50	—	—	—	—	4.31	18.7	4.79	20.8	—	—	S10N04P51P
1	0.50	3.11	13.5	3.6	15.6	—	—	—	—	7.19	31.2	S10N06P51P
1	0.75	—	—	—	—	6.46	28.2	7.19	31.2	—	—	S10N04P76P
1	0.75	4.66	20.3	5.4	23.4	—	—	—	—	10.8	46.8	S10N06P76P
1	1	—	—	—	—	8.62	37.5	9.58	41.7	—	—	S10N04P01P
1	1	6.23	27.1	7.2	31.2	—	—	—	—	14.4	62.5	S10N06P01P
1	1.5	—	—	—	—	12.9	56.2	14.4	62.5	—	—	S10N04P16P
1	1.5	9.34	40.6	10.8	46.9	—	—	—	—	21.6	93.7	S10N06P16P
1	2	—	—	—	—	17.2	75	19.2	83.3	—	—	S10N04P02P
1	2	12.5	54.2	14.4	62.5	—	—	—	—	28.7	125	S10N06P02P
1	3	—	—	—	—	25.8	112.5	28.7	125.1	—	—	S10N04A03N
1	3	18.6	81.3	21.6	93.6	—	—	—	—	43.2	187.5	S10N06A03N
1	5	—	—	—	—	43.1	187.5	47.9	208.5	—	—	S10N04A05N
1	5	31.1	135.5	36	156	—	—	—	—	72	312.5	S10N06A05N
1	7.5	—	—	—	—	64.6	282	71.9	312	—	—	S10N04A07N
1	7.5	46.6	203	54	234	—	—	—	—	108	468	S10N06A07N
Connection Diagram ②		G		F		G		F		E		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		219		242		246		253		260		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.05	0.96	4.16	1.0	4.38	—	—	0.53	2.29	—	—	S10N04A81N
1	0.05	—	—	—	—	0.77	3.34	—	—	0.41	1.77	S10N06A81N
1	0.10	1.92	8.33	2.01	8.75	—	—	1.05	4.58	—	—	S10N04A82N
1	0.10	—	—	—	—	1.53	6.67	—	—	0.82	3.54	S10N06A82N
1	0.15	2.87	12.5	3.02	13.1	—	—	1.58	6.87	—	—	S10N04A83N
1	0.15	—	—	—	—	2.3	10.0	—	—	1.22	5.31	S10N06A83N
1	0.25	4.79	20.8	5.03	21.9	—	—	2.63	11.5	—	—	S10N04P26P
1	0.25	—	—	—	—	3.83	16.7	—	—	2.04	8.85	S10N06P26P
1	0.50	9.58	41.6	10.1	43.7	—	—	5.27	22.9	—	—	S10N04P51P
1	0.50	—	—	—	—	7.67	33.3	—	—	4.07	17.7	S10N06P51P
1	0.75	14.4	62.4	15.1	65.6	—	—	7.9	34.4	—	—	S10N04P76P
1	0.75	—	—	—	—	11.5	50	—	—	6.11	26.6	S10N06P76P
1	1	19.2	83.3	20.1	87.5	—	—	10.5	45.8	—	—	S10N04P01P
1	1	—	—	—	—	15.3	66.7	—	—	8.15	35.4	S10N06P01P
1	1.5	28.7	125	30.2	131	—	—	15.8	68.7	—	—	S10N04P16P
1	1.5	—	—	—	—	23	100	—	—	12.2	53.1	S10N06P16P
1	2	38.3	167	40.2	175	—	—	21.1	91.7	—	—	S10N04P02P
1	2	—	—	—	—	30.7	133	—	—	16.3	70.8	S10N06P02P
1	3	57.6	249.9	60.3	262.5	—	—	31.5	137.4	—	—	S10N04A03N
1	3	—	—	—	—	45.9	200.1	—	—	24.4	106.2	S10N06A03N
1	5	96	416.5	100.5	437.5	—	—	52.5	229	—	—	S10N04A05N
1	5	—	—	—	—	76.5	333.5	—	—	40.7	177	S10N06A05N
1	7.5	144	624	151	656	—	—	79	344	—	—	S10N04A07N
1	7.5	—	—	—	—	115	500	—	—	61.1	266	S10N06A07N
Connection Diagram ②		E		E		E		F		F		

Notes

① Additional wiring trough may be required.

② Refer to Page V2-T2-170 for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on Page V2-T2-213.

Single-Phase 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		216		218		225		Style Number		
		208 Output kVA	208 Output Amps	212 Output kVA	212 Output Amps	216 Output kVA	216 Output Amps	218 Output kVA	218 Output Amps		225 Output kVA	225 Output Amps
1	0.05	—	—	—	—	0.45	1.88	0.5	2.08	—	—	S10N04A81N
1	0.05	0.32	1.35	0.38	1.56	—	—	—	—	0.75	3.12	S10N06A81N
1	0.10	—	—	—	—	0.9	3.75	1.0	4.17	—	—	S10N04A82N
1	0.10	0.65	2.71	0.75	3.12	—	—	—	—	1.5	6.25	S10N06A82N
1	0.15	—	—	—	—	1.35	5.62	1.5	6.25	—	—	S10N04A83N
1	0.15	0.98	4.06	1.12	4.69	—	—	—	—	2.25	9.37	S10N06A83N
1	0.25	—	—	—	—	2.25	9.37	2.5	10.4	—	—	S10N04P26P
1	0.25	1.62	6.77	1.87	7.81	—	—	—	—	3.75	15.6	S10N06P26P
1	0.50	—	—	—	—	4.5	18.7	5	20.8	—	—	S10N04P51P
1	0.50	3.25	13.5	3.75	15.6	—	—	—	—	7.5	31.2	S10N06P51P
1	0.75	—	—	—	—	6.75	28.2	7.5	31.2	—	—	S10N04P76P
1	0.75	4.87	20.3	5.62	23.4	—	—	—	—	11.2	46.8	S10N06P76P
1	1	—	—	—	—	9	37.5	10	41.7	—	—	S10N04P01P
1	1	6.5	27.1	7.5	31.2	—	—	—	—	15	62.5	S10N06A01
1	1.5	—	—	—	—	13.5	56.2	15	62.5	—	—	S10N04P16P
1	1.5	9.75	40.6	11.2	46.9	—	—	—	—	22.5	93.7	S10N06P16P
1	2	—	—	—	—	18	75	20	83.3	—	—	S10N04P02P
1	2	13	54.2	15	62.5	—	—	—	—	30	125	S10N06P02P
1	3	—	—	—	—	27	112.5	30	125.1	—	—	S10N04A03N
1	3	19.5	81.3	22.5	93.6	—	—	—	—	45	187.5	S10N06A03N
1	5	—	—	—	—	45	187	50	208	—	—	S10N04A05N
1	5	32.5	135	37.5	156	—	—	—	—	75	312	S10N06A05N
1	7.5	—	—	—	—	67.5	282	75	312	—	—	S10N04A07N
1	7.5	48.7	203	56.2	234	—	—	—	—	112	468	S10N06A07N
Connection Diagram ②		G		F		G		F		E		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		229		252		256		264		272		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.05	1.0	4.16	1.05	4.38	—	—	0.55	2.29	—	—	S10N04A81N
1	0.05	—	—	—	—	0.8	3.33	—	—	0.42	1.77	S10N06A81N
1	0.10	2.0	8.33	2.1	8.75	—	—	1.1	4.58	—	—	S10N04A82N
1	0.10	—	—	—	—	1.6	6.67	—	—	0.85	3.54	S10N06A82N
1	0.15	3.0	12.5	3.15	13.1	—	—	1.65	6.87	—	—	S10N04A83N
1	0.15	—	—	—	—	2.4	10.0	—	—	1.27	5.31	S10N06A83N
1	0.25	5	20.8	5.25	21.9	—	—	2.75	11.5	—	—	S10N04P26P
1	0.25	—	—	—	—	4	16.7	—	—	2.12	8.85	S10N06P26P
1	0.50	10	41.6	10.5	43.7	—	—	5.5	22.9	—	—	S10N04P51P
1	0.50	—	—	—	—	8	33.3	—	—	4.25	17.7	S10N06P51P
1	0.75	15	62.4	15.7	65.6	—	—	8.25	34.4	—	—	S10N04P76P
1	0.75	—	—	—	—	12	50	—	—	6.37	26.6	S10N06P76P
1	1	20	83.3	21	87.5	—	—	11	45.8	—	—	S10N04P01P
1	1	—	—	—	—	16	66.7	—	—	8.5	35.4	S10N06P01P
1	1.5	30	125	31.5	131	—	—	16.5	68.7	—	—	S10N04P16P
1	1.5	—	—	—	—	24	100	—	—	12.7	53.1	S10N06P16P
1	2	40	167	42	175	—	—	22	91.7	—	—	S10N04P02P
1	2	—	—	—	—	32	133	—	—	17	70.8	S10N06P02P
1	3	60	249.9	63	262.5	—	—	33	137.4	—	—	S10N04A03N
1	3	—	—	—	—	48	200.1	—	—	25.5	106.2	S10N06A03N
1	5	100	416.5	105	437.5	—	—	55	229	—	—	S10N04A05N
1	5	—	—	—	—	80	333	—	—	42.5	177	S10N06A05N
1	7.5	150	624	157	656	—	—	82.5	344	—	—	S10N04A07N
1	7.5	—	—	—	—	120	500	—	—	63.7	266	S10N06A07N
Connection Diagram ②		E		E		E		F		F		

Notes

① Additional wiring trough may be required.

② Refer to Page V2-T2-170 for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on Page V2-T2-213.

Three-Phase Open Delta Connection 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		199		203		207		209		216		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
2	0.05	—	—	—	—	0.75	1.87	0.83	2.08	—	—	S10N04A81N
2	0.05	0.54	1.35	0.62	1.56	—	—	—	—	1.24	3.12	S10N06A81N
2	0.10	—	—	—	—	1.49	3.75	1.66	4.17	—	—	S10N04A82N
2	0.10	1.08	2.71	1.24	3.12	—	—	—	—	2.49	6.25	S10N06A82N
2	0.15	—	—	—	—	2.24	5.62	2.49	6.25	—	—	S10N04A83N
2	0.15	1.62	4.06	1.87	4.69	—	—	—	—	3.73	9.37	S10N06A83N
2	0.25	—	—	—	—	3.3	9.37	4.15	10.4	—	—	S10N04P26P
2	0.25	2.7	6.77	3.11	7.81	—	—	—	—	6.22	15.6	S10N06P26P
2	0.50	—	—	—	—	7.47	18.7	8.3	20.8	—	—	S10N04P51P
2	0.50	5.39	13.5	6.22	15.6	—	—	—	—	12.4	31.2	S10N06P51P
2	0.75	—	—	—	—	11.2	28.2	12.4	31.2	—	—	S10N04P76P
2	0.75	8.09	20.3	9.33	23.4	—	—	—	—	18.7	46.8	S10N06P76P
2	1	—	—	—	—	14.9	37.5	16.6	41.7	—	—	S10N04P01P
2	1	10.8	27.1	12.4	31.2	—	—	—	—	24.9	62.5	S10N06P01P
2	1.5	—	—	—	—	22.4	56.2	24.9	62.5	—	—	S10N04P16P
2	1.5	16.2	40.6	18.7	46.9	—	—	—	—	37.3	93.7	S10N06P16P
2	2	—	—	—	—	29.9	75	33.2	83.3	—	—	S10N04P02P
2	2	21.6	54.2	24.9	62.5	—	—	—	—	49.8	125	S10N06P02P
2	3	—	—	—	—	44.7	112.5	49.8	125.1	—	—	S10N04A03N
2	3	32.4	81.3	32.7	93.6	—	—	—	—	74.7	187.5	S10N06A03N
2	5	—	—	—	—	74.7	187	83	208	—	—	S10N04A05N
2	5	53.9	135	62.2	156	—	—	—	—	124	312.5	S10N06A05N
2	7.5	—	—	—	—	112	282	124	312	—	—	S10N04A07N
2	7.5	80.9	203	93.3	234	—	—	—	—	187	468	S10N06A07N
Connection Diagram ②		L		K		L		K		I		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Open Delta Connection 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		219		242		246		253		260		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
2	0.05	1.66	4.17	1.74	4.37	—	—	0.91	2.29	—	—	S10N04A81N
2	0.05	—	—	—	—	1.33	3.33	—	—	0.70	1.77	S10N06A81N
2	0.10	3.32	8.33	3.48	8.75	—	—	1.83	4.58	—	—	S10N04A82N
2	0.10	—	—	—	—	2.65	6.67	—	—	1.41	3.54	S10N06A82N
2	0.15	4.98	12.5	5.23	13.1	—	—	2.74	6.87	—	—	S10N04A83N
2	0.15	—	—	—	—	3.98	10.0	—	—	2.12	5.13	S10N06A83N
2	0.25	8.3	20.8	8.71	21.9	—	—	4.56	11.5	—	—	S10N04P26P
2	0.25	—	—	—	—	6.64	16.7	—	—	3.52	8.85	S10N06P26P
2	0.50	16.6	41.7	17.4	43.7	—	—	9.73	22.9	—	—	S10N04P51P
2	0.50	—	—	—	—	13.3	33.3	—	—	7.05	17.7	S10N06P51P
2	0.75	24.9	62.4	26.1	65.6	—	—	13.7	34.4	—	—	S10N04P76P
2	0.75	—	—	—	—	19.9	50	—	—	10.6	26.6	S10N06P76P
2	1	33.2	83.3	34.8	87.5	—	—	18.3	45.8	—	—	S10N04P01P
2	1	—	—	—	—	26.5	66.7	—	—	14.1	35.4	S10N06P01P
2	1.5	49.8	125	52.3	131	—	—	27.4	68.7	—	—	S10N04P16P
2	1.5	—	—	—	—	39.8	100	—	—	21.2	53.1	S10N06P16P
2	2	66.4	167	69.7	175	—	—	36.5	91.7	—	—	S10N04P02P
2	2	—	—	—	—	53.1	133	—	—	28.2	70.8	S10N06P02P
2	3	99.6	249.9	104.4	262.5	—	—	54.9	137.4	—	—	S10N04A03N
2	3	—	—	—	—	79.5	200	—	—	42.3	106.2	S10N06A03N
2	5	166	417	174	437	—	—	91.3	229	—	—	S10N04A05N
2	5	—	—	—	—	133	333	—	—	70.5	177	S10N06A05N
2	7.5	249	624	261	656	—	—	137	344	—	—	S10N04A07N
2	7.5	—	—	—	—	199	500	—	—	106	266	S10N06A07N
Connection Diagram ②		I		I		I		K		K		

Notes

① Additional wiring trough may be required.

② Refer to Page V2-T2-170 for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on Page V2-T2-213.

Three-Phase Open Delta Connection 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		212		216		218		225		Style Number
		208 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
2	0.05	—	—	—	—	0.73	1.87	0.87	2.08	—	—	S10N04A81N
2	0.05	0.56	1.35	0.65	1.56	—	—	—	—	1.3	3.12	S10N06A81N
2	0.10	—	—	—	—	1.56	3.75	1.73	4.17	—	—	S10N04A82N
2	0.10	1.13	2.71	1.3	3.12	—	—	—	—	2.6	6.25	S10N06A82N
2	0.15	—	—	—	—	2.34	5.62	2.6	6.25	—	—	S10N04A83N
2	0.15	1.69	4.06	1.95	4.69	—	—	—	—	3.9	9.37	S10N06A83N
2	0.25	—	—	—	—	3.9	9.37	4.33	10.4	—	—	S10N04P26P
2	0.25	2.81	6.77	3.25	7.81	—	—	—	—	6.49	15.6	S10N06P26P
2	0.50	—	—	—	—	7.79	18.7	8.66	20.8	—	—	S10N04P51P
2	0.50	5.63	13.5	6.5	15.6	—	—	—	—	13	31.2	S10N06P51P
2	0.75	—	—	—	—	11.7	28.2	13	31.2	—	—	S10N04P76P
2	0.75	8.44	20.3	9.75	23.4	—	—	—	—	19.5	46.8	S10N06P76P
2	1	—	—	—	—	15.6	37.5	17.3	41.7	—	—	S10N04P01P
2	1	11.3	27.1	13	31.2	—	—	—	—	26	62.5	S10N06P01P
2	1.5	—	—	—	—	23.4	56.2	26	62.5	—	—	S10N04P16P
2	1.5	16.9	40.6	19.5	46.9	—	—	—	—	39	93.7	S10N06P16P
2	2	—	—	—	—	31.2	75	34.6	83.3	—	—	S10N04P02P
2	2	22.5	54.2	26	62.5	—	—	—	—	52	125	S10N06P02P
2	3	—	—	—	—	46.8	112.5	51.9	125.1	—	—	S10N04A03N
2	3	33.9	81.3	39	93.6	—	—	—	—	78	187.5	S10N06A03N
2	5	—	—	—	—	77.9	187	86.6	208	—	—	S10N04A05N
2	5	56.3	135	65	156	—	—	—	—	130	312	S10N06A05N
2	7.5	—	—	—	—	117	282	130	312	—	—	S10N04A07N
2	7.5	84.4	203	97.5	234	—	—	—	—	195	468	S10N06A07N
Connection Diagram ②		L		K		L		K		I		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Open Delta Connection 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		229		252		256		264		272		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
2	0.05	1.73	4.16	1.82	4.37	—	—	0.95	2.29	—	—	S10N04A81N
2	0.05	—	—	—	—	1.38	3.33	—	—	0.74	1.77	S10N06A81N
2	0.10	3.46	8.33	3.64	8.75	—	—	1.91	4.58	—	—	S10N04A82N
2	0.10	—	—	—	—	2.77	6.67	—	—	1.47	3.54	S10N06A82N
2	0.15	5.19	12.5	5.45	13.1	—	—	2.86	6.87	—	—	S10N04A83N
2	0.15	—	—	—	—	4.15	10.0	—	—	2.21	5.31	S10N06A83N
2	0.25	8.66	20.8	9.09	21.9	—	—	4.76	11.5	—	—	S10N04P26P
2	0.25	—	—	—	—	6.92	16.7	—	—	3.68	8.85	S10N06P26P
2	0.50	17.3	41.6	18.2	43.7	—	—	9.53	22.9	—	—	S10N04P51P
2	0.50	—	—	—	—	13.8	33.3	—	—	7.36	17.7	S10N06P51P
2	0.75	26	62.4	27.3	65.6	—	—	14.3	34.4	—	—	S10N04P76P
2	0.75	—	—	—	—	20.8	50	—	—	11	26.6	S10N06P76P
2	1	34.6	83.3	36.4	87.5	—	—	19.1	45.8	—	—	S10N04P01P
2	1	—	—	—	—	27.7	66.7	—	—	14.7	35.4	S10N06P01P
2	1.5	51.9	125	54.5	131	—	—	28.6	68.7	—	—	S10N04P16P
2	1.5	—	—	—	—	41.5	100	—	—	22.1	53.1	S10N06P16P
2	2	69.3	167	72.7	175	—	—	38.1	91.7	—	—	S10N04P02P
2	2	—	—	—	—	55.4	133	—	—	29.4	70.8	S10N06P02P
2	3	103.8	249.9	109.2	262.5	—	—	57.3	137.4	—	—	S10N04A03N
2	3	—	—	—	—	83.1	200	—	—	44.1	106.2	S10N06A03N
2	5	173	416	182	437	—	—	95.3	229	—	—	S10N04A05N
2	5	—	—	—	—	138	333	—	—	73.6	177	S10N06A05N
2	7.5	260	624	273	656	—	—	143	344	—	—	S10N04A07N
2	7.5	—	—	—	—	208	500	—	—	110	266	S10N06A07N
Connection Diagram ②	I			I		I		K		K		

Notes

① Additional wiring trough may be required.

② Refer to Page V2-T2-170 for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on Page V2-T2-213.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

2

Three-Phase Wye Connection 208 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		152		164		173		180		184		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	—	—	—	—	0.75	2.08	—	—	—	—	S10N04A81N
3	0.05	0.41	1.15	0.56	1.56	—	—	0.98	2.71	1.12	3.12	S10N06A81N
3	0.10	—	—	—	—	1.50	4.17	—	—	—	—	S10N04A82N
3	0.10	0.82	2.29	1.12	3.12	—	—	1.95	5.41	2.25	6.25	S10N06A82N
3	0.15	—	—	—	—	2.25	6.25	—	—	—	—	S10N04A83N
3	0.15	1.24	3.44	1.69	4.69	—	—	2.92	8.12	3.73	9.37	S10N06A83N
3	0.25	—	—	—	—	3.75	10.4	—	—	—	—	S10N04P26P
3	0.25	2.06	5.73	2.81	7.81	—	—	4.87	13.5	5.62	15.6	S10N06P26P
3	0.50	—	—	—	—	7.5	20.8	—	—	—	—	S10N04P51P
3	0.50	4.12	11.5	5.62	15.6	—	—	9.75	27.1	11.2	31.2	S10N06P51P
3	0.75	—	—	—	—	11.2	31.2	—	—	—	—	S10N04P76P
3	0.75	6.19	17.2	8.44	23.4	—	—	14.6	40.6	16.8	46.8	S10N06P76P
3	1	—	—	—	—	15	41.7	—	—	—	—	S10N04P01P
3	1	8.25	22.9	11.2	31.2	—	—	19.5	54.1	22.5	62.5	S10N06P01P
3	1.5	—	—	—	—	22.5	62.5	—	—	—	—	S10N04P16P
3	1.5	12.4	34.4	16.9	46.9	—	—	29.2	81.2	33.7	93.7	S10N06P16P
3	2	—	—	—	—	30	83.3	—	—	—	—	S10N04P02P
3	2	16.5	45.8	22.5	62.5	—	—	39	108	45	125	S10N06P02P
3	3	—	—	—	—	45	125	—	—	—	—	S10N04A03N
3	3	24.7	68.7	33.6	93.6	—	—	58.5	162.3	67.5	187.5	S10N06A03N
3	5	—	—	—	—	75	208	—	—	—	—	S10N04A05N
3	5	41.2	115	56.2	156	—	—	97.5	271	112	312	S10N06A05N
3	7.5	—	—	—	—	112	312	—	—	—	—	S10N04A07N
3	7.5	61.9	172	84.4	234	—	—	146	406	168	468	S10N06A07N
Connection Diagram ②		P		N		N		O		M		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 208 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		229		236		250		264		Style Number
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	1.5	4.16	1.65	4.58	—	—	0.9	2.5	—	—	S10N04A81N
3	0.05	—	—	—	—	1.27	3.54	—	—	0.71	1.98	S10N06A81N
3	0.10	3.0	8.33	3.3	9.17	—	—	1.8	5.0	—	—	S10N04A82N
3	0.10	—	—	—	—	2.55	7.08	—	—	1.42	3.95	S10N06A82N
3	0.15	4.5	12.5	4.95	13.7	—	—	2.7	7.5	—	—	S10N04A83N
3	0.15	—	—	—	—	3.82	10.6	—	—	2.14	5.93	S10N06A83N
3	0.25	7.5	20.8	8.25	22.9	—	—	4.5	12.5	—	—	S10N04P26P
3	0.25	—	—	—	—	6.35	17.7	—	—	3.56	9.88	S10N06P26P
3	0.50	15	41.6	16.5	45.8	—	—	9	25	—	—	S10N04P51P
3	0.50	—	—	—	—	12.7	35.4	—	—	7.12	19.3	S10N06P51P
3	0.75	22.5	62.4	24.7	68.7	—	—	13.5	37.5	—	—	S10N04P76P
3	0.75	—	—	—	—	19	53.1	—	—	10.7	29.3	S10N06P76P
3	1	30	83.3	33	91.7	—	—	18	50	—	—	S10N04P01P
3	1	—	—	—	—	25.5	70.8	—	—	14.2	39.5	S10N06P01P
3	1.5	45	125	49.5	137	—	—	27	75	—	—	S10N04P16P
3	1.5	—	—	—	—	38.2	106	—	—	21.4	59.3	S10N06P16P
3	2	60	167	66	183	—	—	361	100	—	—	S10N04P02P
3	2	—	—	—	—	51	142	—	—	28.5	79.2	S10N06P02P
3	3	90	249.9	99	275.1	—	—	54	150	—	—	S10N04A03N
3	3	—	—	—	—	76.5	212.4	—	—	46.2	118.5	S10N06A03N
3	5	150	416	165	458	—	—	90	250	—	—	S10N04A05N
3	5	—	—	—	—	127	354	—	—	71.2	198	S10N06A05N
3	7.5	225	624	274	687	—	—	135	375	—	—	S10N04A07N
3	7.5	—	—	—	—	190	531	—	—	107	293	S10N06A07N
Connection Diagram ②		M		M		M		N		N		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		183		192		199		208		218		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	—	—	0.83	2.08	—	—	1.65	4.58	1.66	4.17	S10N04A81N
3	0.05	0.62	1.56	—	—	0.54	1.35	—	—	—	—	S10N06A81N
3	0.10	—	—	1.66	4.17	—	—	3.3	9.17	3.32	8.35	S10N04A82N
3	0.10	1.25	3.12	—	—	1.08	2.71	—	—	—	—	S10N06A82N
3	0.15	—	—	2.49	6.25	—	—	4.95	13.7	4.98	12.5	S10N04A83N
3	0.15	1.87	4.69	—	—	1.62	4.06	—	—	—	—	S10N06A83N
3	0.25	—	—	4.15	10.4	—	—	8.2	22.9	8.3	20.9	S10N04P26P
3	0.25	3.11	7.81	—	—	2.70	6.77	—	—	—	—	S10N06P26P
3	0.50	—	—	8.3	20.8	—	—	16.5	45.8	16.6	41.7	S10N04P51P
3	0.50	6.22	15.6	—	—	5.39	13.5	—	—	—	—	S10N06P51P
3	0.75	—	—	12.4	31.2	—	—	24.7	68.8	24.9	62.6	S10N04P76P
3	0.75	9.33	23.4	—	—	8.09	20.3	—	—	—	—	S10N06P76P
3	1	—	—	16.6	41.7	—	—	33	91.7	33.2	83.5	S10N04P01P
3	1	12.5	31.2	—	—	10.8	27.1	—	—	—	—	S10N06P01P
3	1.5	—	—	24.9	62.5	—	—	49.5	137	49.8	125	S10N04P16P
3	1.5	18.7	46.9	—	—	16.2	40.6	—	—	—	—	S10N06P16P
3	2	—	—	33.2	83.3	—	—	66	183	66.4	167	S10N04P02P
3	2	24.9	62.5	—	—	21.6	54.2	—	—	—	—	S10N06P02P
3	3	—	—	49.8	125.1	—	—	99	275	99.6	250.5	S10N04A03N
3	3	37.5	93.6	—	—	32.4	81.3	—	—	—	—	S10N06A03N
3	5	—	—	83	208	—	—	165	458	166	417	S10N04A05N
3	5	62.2	156	—	—	53.9	135	—	—	—	—	S10N06A05N
3	7.5	—	—	124	312	—	—	247	688	249	626	S10N04A07N
3	7.5	93.3	234	—	—	80.9	203	—	—	—	—	S10N06A07N
Connection Diagram ②		N		N		S		M		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 230 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		245		253		260		265		Style Number
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	1.74	4.37	—	—	0.91	2.29	—	—	—	—	S10N04A81N
3	0.05	—	—	1.33	3.33	—	—	0.70	1.77	0.62	1.56	S10N06A81N
3	0.10	3.48	8.75	—	—	1.83	4.58	—	—	—	—	S10N04A82N
3	0.10	—	—	2.65	6.67	—	—	1.41	3.54	1.25	3.12	S10N06A82N
3	0.15	5.23	13.1	—	—	2.74	6.87	—	—	—	—	S10N04A83N
3	0.15	—	—	3.98	10.0	—	—	2.12	5.31	1.87	4.69	S10N06A83N
3	0.25	8.71	21.9	—	—	4.56	11.5	—	—	—	—	S10N04P26P
3	0.25	—	—	6.63	16.7	—	—	3.52	8.85	3.11	7.81	S10N06P26P
3	0.50	17.4	43.7	—	—	9.31	22.9	—	—	—	—	S10N04P51P
3	0.50	—	—	13.3	33.3	—	—	7.05	17.7	6.22	15.6	S10N06P51P
3	0.75	26.1	65.6	—	—	13.7	34.4	—	—	—	—	S10N04P76P
3	0.75	—	—	19.9	50	—	—	10.6	26.6	9.33	23.4	S10N06P76P
3	1	34.8	87.5	—	—	18.3	45.8	—	—	—	—	S10N04P01P
3	1	—	—	26.5	66.7	—	—	14.1	35.4	12.5	31.2	S10N06P01P
3	1.5	52.3	131	—	—	27.4	68.7	—	—	—	—	S10N04P16P
3	1.5	—	—	39.8	100	—	—	21.2	53.1	18.7	46.9	S10N06P16P
3	2	69.7	175	—	—	36.6	91.6	—	—	—	—	S10N04P02P
3	2	—	—	53.1	133	—	—	28.2	70.8	24.9	62.5	S10N06P02P
3	3	104.4	262.5	—	—	54.9	137.4	—	—	—	—	S10N04A03N
3	3	—	—	79.5	200	—	—	42.3	106.2	37.5	93.6	S10N06A03N
3	5	174	437	—	—	91.3	229	—	—	—	—	S10N04A05N
3	5	—	—	133	333	—	—	70.5	177	62.2	156	S10N06A05N
3	7.5	261	656	—	—	137	344	—	—	—	—	S10N04A07N
3	7.5	—	—	199	500	—	—	106	266	93.3	234	S10N06A07N
Connection Diagram ②		Q		Q		R		R		S		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage										Style Number
		190		200		208		218		228		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	—	—	0.86	2.08	—	—	0.86	2.08	1.73	4.17	S10N04A81N
3	0.05	0.65	1.65	—	—	1.27	3.05	—	—	—	—	S10N06A81N
3	0.10	—	—	1.73	4.17	—	—	1.73	4.17	3.46	8.34	S10N04A82N
3	0.10	1.3	3.12	—	—	2.55	6.12	—	—	—	—	S10N06A82N
3	0.15	—	—	2.59	6.25	—	—	2.59	6.25	5.20	12.5	S10N04A83N
3	0.15	1.95	4.69	—	—	3.82	9.16	—	—	—	—	S10N06A83N
3	0.25	—	—	4.32	10.4	—	—	4.32	10.4	8.66	20.9	S10N04P26P
3	0.25	3.25	7.81	—	—	6.3	15.1	—	—	—	—	S10N06P26P
3	0.50	—	—	8.65	20.8	—	—	8.65	20.8	17.3	41.7	S10N04P51P
3	0.50	6.5	15.6	—	—	12.7	30.4	—	—	—	—	S10N06P51P
3	0.75	—	—	13	31.2	—	—	13	31.2	26	62.6	S10N04P76P
3	0.75	9.75	23.4	—	—	19.2	46	—	—	—	—	S10N06P76P
3	1	—	—	17.3	41.7	—	—	17.3	41.7	34.6	83.4	S10N04P01P
3	1	13	31.2	—	—	25.5	61.2	—	—	—	—	S10N06P01P
3	1.5	—	—	25.9	62.5	—	—	25.9	62.5	52	125	S10N04P16P
3	1.5	19.5	46.9	—	—	38.2	91.6	—	—	—	—	S10N06P16P
3	2	—	—	34.6	83.3	—	—	34.6	83.3	69.3	167	S10N04P02P
3	2	26	62.5	—	—	51	122.4	—	—	—	—	S10N06P02P
3	3	—	—	51.9	125.1	—	—	51.9	125.1	103.8	250.2	S10N04A03N
3	3	39	93.6	—	—	76.5	183.6	—	—	—	—	S10N06A03N
3	5	—	—	86.5	208	—	—	86.5	208	173	417	S10N04A05N
3	5	65	156	—	—	127.2	305.2	—	—	—	—	S10N06A05N
3	7.5	—	—	130	312	—	—	130	312	260	626	S10N04A07N
3	7.5	97.5	234	—	—	192	460	—	—	—	—	S10N06A07N
Connection Diagram ②		N		N		M		R		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 240 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage				Style Number						
		252 Output kVA	252 Amps	256 Output kVA	256 Amps		264 Output kVA	264 Amps	272 Output kVA	272 Amps	277 Output kVA	277 Amps
3	0.05	1.85	4.37	—	—	0.95	2.29	—	—	—	—	S10N04A81N
3	0.05	—	—	1.39	3.33	—	—	0.74	1.77	0.65	1.56	S10N06A81N
3	0.10	3.64	8.75	—	—	1.91	4.58	—	—	—	—	S10N04A82N
3	0.10	—	—	2.77	6.67	—	—	1.47	3.54	1.3	3.12	S10N06A82N
3	0.15	5.46	13.1	—	—	2.86	6.87	—	—	—	—	S10N04A83N
3	0.15	—	—	4.16	10.0	—	—	2.21	5.31	1.95	4.69	S10N06A83N
3	0.25	9.09	21.9	—	—	4.76	11.5	—	—	—	—	S10N04P26P
3	0.25	—	—	6.93	16.7	—	—	3.68	8.85	3.25	7.81	S10N06P26P
3	0.50	18.2	43.7	—	—	9.53	22.9	—	—	—	—	S10N04P51P
3	0.50	—	—	13.9	33.3	—	—	7.36	17.7	6.5	15.6	S10N06P51P
3	0.75	27.3	65.6	—	—	14.3	34.4	—	—	—	—	S10N04P76P
3	0.75	—	—	20.8	50	—	—	11	26.6	9.75	23.4	S10N06P76P
3	1	36.4	87.5	—	—	19.1	45.8	—	—	—	—	S10N04P01P
3	1	—	—	27.7	66.7	—	—	14.7	35.4	13	31.2	S10N06P01P
3	1.5	54.6	131	—	—	28.6	68.7	—	—	—	—	S10N04P16P
3	1.5	—	—	41.6	100	—	—	22.1	53.1	19.5	46.9	S10N06P16P
3	2	72.8	175	—	—	38.1	91.7	—	—	—	—	S10N04P02P
3	2	—	—	55.4	133	—	—	29.5	70.8	26	62.5	S10N06P02P
3	3	109.2	262.5	—	—	57.3	137.4	—	—	—	—	S10N04A03N
3	3	—	—	83.1	200	—	—	44.1	106.2	39	93.6	S10N06A03N
3	5	182	437	—	—	95.3	229	—	—	—	—	S10N04A05N
3	5	—	—	139	333	—	—	73.6	177	65	156	S10N06A05N
3	7.5	273	656	—	—	143	344	—	—	—	—	S10N04A07N
3	7.5	—	—	208	500	—	—	110	266	97.5	234	S10N06A07N
Connection Diagram ②		Q		Q		R		R		S		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

2

Three-Phase Wye Connection 460 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage								Style Number
		406		418		432		438		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	—	—	1.66	2.08	—	—	3.22	4.04	S10N04A81N
3	0.05	1.25	1.57	—	—	2.49	3.12	—	—	S10N06A81N
3	0.10	—	—	3.31	4.15	—	—	6.62	8.31	S10N04A82N
3	0.10	2.49	3.12	—	—	4.97	6.24	—	—	S10N06A82N
3	0.15	—	—	4.97	6.24	—	—	9.94	12.48	S10N04A83N
3	0.15	3.73	4.68	—	—	7.46	9.36	—	—	S10N06A83N
3	0.25	—	—	8.28	10.39	—	—	16.6	20.84	S10N04P26P
3	0.25	6.22	7.81	—	—	12.4	15.56	—	—	S10N06P26P
3	0.50	—	—	16.6	20.84	—	—	33.2	41.67	S10N04P51P
3	0.50	12.5	15.69	—	—	24.69	31.25	—	—	S10N06P51P
3	0.75	—	—	24.8	31.12	—	—	49.6	62.25	S10N04P76P
3	0.75	18.7	23.47	—	—	37.3	46.82	—	—	S10N06P76P
3	1	—	—	33.1	41.54	—	—	66.2	83.09	S10N04P01P
3	1	24.9	31.25	—	—	49.7	62.38	—	—	S10N06P01P
3	1.5	—	—	49.7	62.38	—	—	99.4	124.75	S10N04P16P
3	1.5	37.3	46.94	—	—	74.6	93.63	—	—	S10N06P16P
3	2	—	—	66.3	83.22	—	—	133	166.93	S10N04P02P
3	2	49.7	62.38	—	—	99.5	124.88	—	—	S10N06P02P
3	3	—	—	99.3	124.64	—	—	198.6	249.27	S10N04A03N
3	3	74.6	93.63	—	—	149	187.01	—	—	S10N06A03N
3	5	—	—	166	208.35	—	—	322	404.16	S10N04A05N
3	5	125	156.89	—	—	249	312.53	—	—	S10N06A05N
3	7.5	—	—	248	311	—	—	496	622	S10N04A07N
3	7.5	187	235	—	—	373	468	—	—	S10N06A07N
Connection Diagram ②		R		R		Q		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

WARNING! Three-phase autotransformers should never be used to obtain four-wire output with three-wire input. Four-wire output requires four-wire wye input.

Three-Phase Wye Connection 460 Volt Output Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage		436		450		Style Number
		424 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
3	0.05	—	1.7	2.1	—	—	—	S10N04A81N
3	0.05	1.3	1.56	—	—	2.6	3.13	S10N06A81N
3	0.10	—	—	3.5	4.2	—	—	S10N04A82N
3	0.10	2.6	3.12	—	—	5.2	6.25	S10N06A82N
3	0.15	—	—	5.2	6.25	—	—	S10N04A83N
3	0.15	3.9	4.68	—	—	7.8	9.38	S10N06A83N
3	0.25	—	—	8.7	10.4	—	—	S10N04P26P
3	0.25	6.5	7.82	—	—	13	15.6	S10N06P26P
3	0.50	—	—	17.4	20.9	—	—	S10N04P51P
3	0.50	13	15.6	—	—	26	31.2	S10N06P51P
3	0.75	—	—	26	31.2	—	—	S10N04P76P
3	0.75	19.5	23.4	—	—	39	46.9	S10N06P76P
3	1	—	—	35	42	—	—	S10N04P01P
3	1	26	31.2	—	—	52	62.5	S10N06P01P
3	1.5	—	—	52	62.5	—	—	S10N04P16P
3	1.5	39	46.8	—	—	78	93.8	S10N06P16P
3	2	—	—	69	82.9	—	—	S10N04P02P
3	2	52	62.5	—	—	104	125	S10N06P02P
3	3	—	—	104	125	—	—	S10N04A03N
3	3	78	93.8	—	—	156	187.6	S10N06A03N
3	5	—	—	174	209.2	—	—	S10N04A05N
3	5	130	156.3	—	—	260	312.7	S10N06A05N
3	7.5	—	—	260	312	—	—	S10N04A07N
3	7.5	195	234	—	—	390	469	S10N06A07N
Connection Diagram ②		R		R		Q		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage/Output Voltage				346/380		362/380		Style Number
		200/240 Output kVA	Amps	230/277 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.25	1.25	5.2	1.44	5.2	1.98	5.2	3.95	10.4	S20N08P26P
1	0.50	2.50	10.4	2.88	10.4	3.95	10.4	7.90	20.8	S20N08P51P
1	0.75	3.75	15.6	4.32	15.6	5.93	15.6	11.9	31.2	S20N08P76P
1	1	5.00	20.8	5.76	20.8	7.90	20.8	15.8	41.6	S20N08P01P
1	1.5	7.50	31.2	8.64	31.2	11.9	31.2	23.8	62.5	S20N08P16P
1	2	10.0	41.6	11.5	41.6	15.8	41.6	31.6	83.3	S20N08P02P
1	3	15.0	62.5	17.3	62.5	23.8	62.5	47.5	125.0	S20N08A03N
1	5	25.0	104.0	28.8	104.0	39.5	104.0	79.0	208.0	S20N08A05N
1	7.5	37.5	156.0	43.2	156.0	59.3	156.0	118.6	312.0	S20N08A07N
Connection Diagram ②		B		B		F		E		

Single-Phase Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage/Output Voltage				436/480		458/480		Style Number
		378/416 Output kVA	Amps	416/457 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.25	2.16	5.2	2.38	5.2	2.50	5.2	4.99	10.4	S20N08P26P
1	0.50	4.33	10.4	4.76	10.4	4.99	10.4	9.98	20.8	S20N08P51P
1	0.75	6.49	15.6	7.14	15.6	7.49	15.6	15.0	31.2	S20N08P76P
1	1	8.65	20.8	9.52	20.8	9.98	20.8	20.0	41.6	S20N08P01P
1	1.5	13.0	31.2	14.3	31.2	15.0	31.2	30.0	62.5	S20N08P16P
1	2	17.3	41.6	19.0	41.6	20.0	41.6	40.0	83.3	S20N08P02P
1	3	26.0	62.5	28.6	62.5	30.0	62.5	60.0	125.0	S20N08A03N
1	5	43.3	104.0	47.6	104.0	49.9	104.0	99.8	208.0	S20N08A05N
1	7.5	64.9	156.0	71.4	156.0	74.9	156.0	149.8	312.0	S20N08A07N
Connection Diagram ②		F		F		F		E		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase Required, 60 Hz

Units Required ①	Unit kVA	Input Available Voltage/Output Voltage								Style Number
		277/230		480/456		504/480		528/480		
		Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	0.25	1.44	6.26	5.23	11.4	5.47	11.4	2.75	5.72	S20N08P26P
1	0.50	2.88	12.5	10.4	22.8	10.9	22.8	5.49	11.4	S20N08P51P
1	0.75	4.33	18.8	15.7	34.2	16.4	34.2	8.24	17.2	S20N08P76P
1	1	5.76	25.0	20.9	45.6	21.8	45.6	11.0	22.9	S20N08P01P
1	1.5	8.64	37.6	31.3	68.4	32.8	68.4	16.5	34.3	S20N08P16P
1	2	11.5	50.1	41.8	91.2	43.7	91.2	22.0	45.8	S20N08P02P
1	3	17.3	75.3	62.7	136.0	65.2	136.0	33.0	68.8	S20N08A03N
1	5	28.8	125.3	104.5	227.0	108.0	227.0	54.9	114.4	S20N08A05N
1	7.5	43.2	187.9	156.8	341.0	163.0	341.0	82.4	171.6	S20N08A07N
Connection Diagram ②		B		E		E		F		

Notes

① Additional wiring trough may be required.

② Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Required, 60 Hz

Unit kVA	Input Available Voltage/Output Voltage										Style Number
	362/380 Output		346/416 Output		430/473 Output		400/480 Output		436/480 Output		
	kVA	Amps	kVA	Amps	kVA	Amps	kVA	Amps	kVA	Amps	
0.25	6.52	10.4	3.75	5.2	4.26	5.2	4.33	5.2	4.33	5.2	S20N08P26P
0.50	13.0	20.8	7.50	10.4	8.52	10.4	8.65	10.4	8.65	10.4	S20N08P51P
0.75	19.6	31.2	11.2	15.6	12.8	15.6	13.0	15.6	13.0	15.6	S20N08P76P
1	26.1	41.6	15.0	20.8	17.0	20.8	17.3	20.8	17.3	20.8	S20N08P01P
1.5	39.1	62.4	22.5	31.2	25.5	31.2	26.0	31.2	26.0	31.2	S20N08P16P
2	52.2	83.2	30.0	41.6	34.1	41.6	34.6	41.6	34.6	41.6	S20N08P02P
3	78.4	125.0	45.0	62.5	51.2	62.5	52.0	62.5	52.0	62.5	S20N08A03N
5	130.4	208.0	75.1	104.0	85.2	104.0	86.6	104.0	86.6	104.0	S20N08A05N
7.5	195.6	312.0	112.6	156.0	127.8	156.0	129.9	156.0	129.9	156.0	S20N08A07N
Connection Diagram ^①	I		N		K		N		K		
Units Required ^②	2		3		2		3		2		

Three-Phase Required, 60 Hz

Unit kVA	Input Available Voltage/Output Voltage										Style Number
	460/483 Output		457/380 Output		504/480 Output		528/480 Output				
	kVA	Amps	kVA	Amps	kVA	Amps	kVA	Amps	kVA	Amps	
0.25	8.7	10.4	4.12	6.25	9.08	10.9	4.76	5.72			S20N08P26P
0.50	17.4	20.8	8.23	12.5	18.2	21.8	9.51	11.4			S20N08P51P
0.75	26.1	31.2	12.3	18.8	27.2	32.8	14.3	17.2			S20N08P76P
1	34.8	41.6	16.5	25.0	36.3	43.7	19.0	22.9			S20N08P01P
1.5	52.2	62.4	24.7	37.5	54.5	65.5	28.5	34.3			S20N08P16P
2	69.6	83.2	32.9	50.0	72.6	87.4	38.0	45.8			S20N08P02P
3	104.6	125.0	49.5	75.2	109.7	131.3	57.2	68.8			S20N08A03N
5	174.0	208.0	82.3	125.1	181.6	218.4	95.1	114.4			S20N08A05N
7.5	261.0	312.0	123.5	187.6	272.4	327.6	142.7	171.6			S20N08A07N
Connection Diagram ^①	I		N		I		K				
Units Required ^②	2		3		2		2				

Notes

^① Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

^② Additional wiring trough may be required.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Open Delta Connection 480 Volt Output Required, 60 Hz

Units Required ^①	Input Available Voltage		575		575		Style Number ^②
	600 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
2	4.3	5.1	—	—	—	—	S20N11P51P
2	—	—	—	—	4.1	4.9	S60G11P51P
2	6.5	7.8	—	—	—	—	S20N11P76P
2	—	—	—	—	6.2	7.4	S60G11P76P
2	8.6	10.3	—	—	—	—	S20N11P01P
2	—	—	—	—	8.3	9.9	S60G11P01P
2	13.0	15.6	—	—	—	—	S20N11P16P
2	—	—	—	—	12.4	14.9	S60G11P16P
2	17.2	20.6	—	—	—	—	S20N11P02P
2	—	—	—	—	16.5	19.8	S60G11P02P
2	25.8	31	—	—	—	—	S20N11S03N
2	—	—	—	—	24.8	29.8	S60G11P03P
2	43.2	51.9	—	—	—	—	S20N11S05N
2	—	—	—	—	41	49.3	S60G11S05N
2	65	78.1	—	—	—	—	S20N11S07N
2	—	—	—	—	62	74.5	S60G11S07N
2	86	103.4	—	—	—	—	S20N11S10N
2	—	—	83	99.8	—	—	S60G11S10N
2	130	156.3	—	—	—	—	S20N11S15N
2	—	—	124	149.1	—	—	S60N11S15N
2	216	259.8	—	—	—	—	T20P11S25EE
2	—	—	207	248.9	—	—	S60J11S25N
2	324	389.7	—	—	—	—	T20P11S37EE
2	432	519.6	—	—	—	—	T20P11S50EE
Connection Diagram ^③	I		J		T		

Notes

- ① Additional wiring trough may be required.
 - ② On transformers supplied with standard taps, taps must be placed at nominal settings.
 - ③ Refer to **Page V2-T2-170** for buck-boost wiring diagrams.
- Autotransformers can be used only where local electric codes permit and isolation of the two circuits is not required.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase Open Delta Connection 480 Volt Output Required, 60 Hz

Units Required ^①	Input Available Voltage		575		575		Style Number ^②
	600 Output kVA	Amps	Output kVA	Amps	Output kVA	Amps	
1	2.5	5.2	—	—	—	—	S20N11P51P
1	—	—	—	—	2.4	5	S60G11P51P
1	3.7	7.7	—	—	—	—	S20N11P76P
1	—	—	—	—	3.6	7.5	S60G11P76P
1	5.0	10.4	—	—	—	—	S20N11P01P
1	—	—	—	—	4.8	10	S60G11P01P
1	7.5	15.6	—	—	—	—	S20N11P16P
1	—	—	—	—	7.2	15	S60G11P16P
1	10	20.8	—	—	—	—	S20N11P02P
1	—	—	—	—	9.6	20	S60G11P02P
1	15	31.2	—	—	—	—	S20N11S03N
1	—	—	—	—	14.3	29.7	S60G11P03P
1	25	52	—	—	—	—	S20N11S05N
1	—	—	—	—	24	50	S60G11S05N
1	37.5	78.1	—	—	—	—	S20N11S07N
1	—	—	—	—	36	75	S60G11S07N
1	50	104.1	—	—	—	—	S20N11S10N
1	—	—	43	100	—	—	S60G11S10N
1	75	156.2	—	—	—	—	S20N11S15N
1	—	—	72	150	—	—	S60N11S15N
1	125	260.4	—	—	—	—	T20P11S25EE
1	—	—	120	250	—	—	S60J11S25N
1	187	389.6	—	—	—	—	T20P11S37EE
1	250	520.8	—	—	—	—	T20P11S50EE
Connection Diagram ^③	E		H		U		

Notes

① Additional wiring trough may be required.

② On transformers supplied with standard taps, taps must be placed at nominal settings.

③ Refer to **Page V2-T2-170** for buck-boost wiring diagrams.

Autotransformers can be used only where local electric codes permit and isolation of the two circuits is not required.

Output voltage for lower input voltage can be found by: $\frac{\text{Rated Output Voltage}}{\text{Rated Input Voltage}} \times \text{Input Actual Voltage} = \text{Output New Voltage}$.

Output kVA available at reduced input voltage can be found by: $\frac{\text{Actual Input Voltage}}{\text{Rated Input Voltage}} \times \text{Output kVA} = \text{New kVA Rating}$.

Frame drawings/dimensions information begins on **Page V2-T2-213**.

Accessories

Please refer to Section 2.7 **Page V2-T2-189**.

Technical Data and Specifications

Frequency

Eaton buck-boost transformers are designed for 60 Hz operation.

Overload Capability

Short-term overload is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour, and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Insulation System and Temperature Rise

Industry standards classify insulation systems and rise as shown below:

Insulation System Classification

Ambient	+ Winding Rise	+ Hot Spot	= Temp. Class
40°C	55°C	10°C	105°C
40°C	80°C	30°C	150°C
25°C	135°C	20°C	180°C
40°C	115°C	30°C	185°C
40°C	150°C	30°C	220°C

The design life of transformers having different insulation systems is the same—the lower-temperature systems are designed for the same life as the higher-temperature systems.

Enclosures

Eaton encapsulated buck-boost transformers use a NEMA 3R rated enclosure.

Winding Terminations

Primary and secondary windings are terminated in the wiring compartment. Encapsulated units have copper leads or stabs brought out for connections. **Lugs are not supplied with these transformers.** Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with an "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a mid-point also becomes available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 mid-point.

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

For additional information, please refer to Section 2.7 **Page V2-T2-192**.

Note: When installation is to be made on a grounded system, consideration must be given to the resulting voltage. Thus, on a 208 grounded wye/120 system, the voltage can be boosted to 240 volts but the voltage to ground will be 139 volts. If 240/120 volts with a mid-point ground is needed, a standard two-winding transformer must be used.

The following formulas can be used to calculate specific requirements.

For single-phase:

$$\text{LOAD kVA} = \frac{\text{Load Voltage} \times \text{Full Line Amperes}}{1000}$$

For three-phase:

$$\text{LOAD kVA} = \frac{\text{Line Load Voltage} \times 1.73 \times \text{Full Load Amperes}}{1000}$$

Average Sound Levels ①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV Encapsulated
0–9	45
10–50	50
51–150	55
151–300	57
301–500	59
501–700	61
701–1000	63
1001–1500	64

Note

① Currently being reviewed and revised by NEMA.

Wiring Diagrams

2

Buck-Boost Transformers Wiring Diagrams

Diagram A

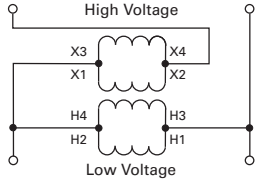


Diagram B

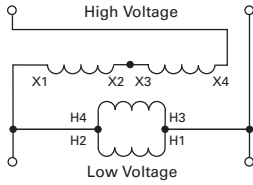


Diagram C

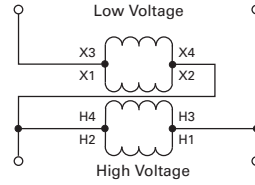


Diagram D

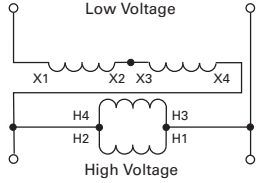


Diagram E

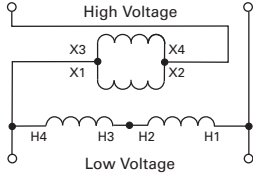


Diagram F

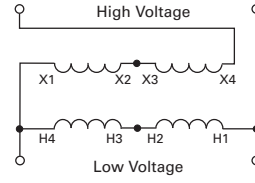


Diagram G

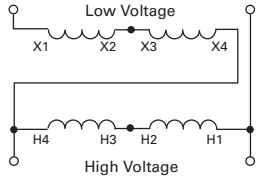


Diagram H

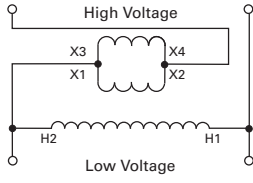


Diagram I

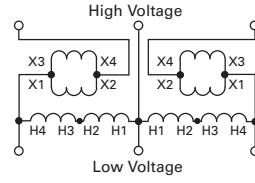


Diagram J

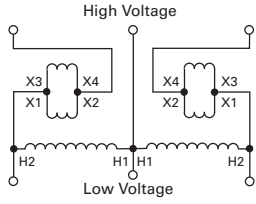


Diagram K

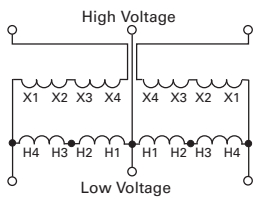


Diagram L

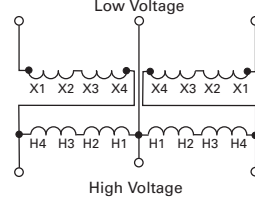


Diagram M ①

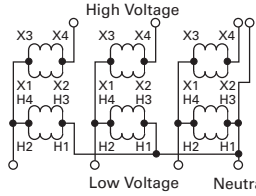


Diagram N ①

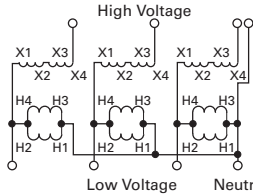


Diagram O ①

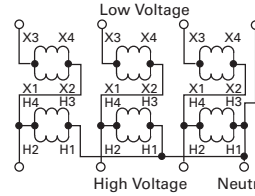


Diagram P ①

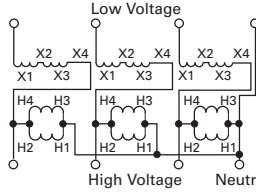


Diagram Q ①

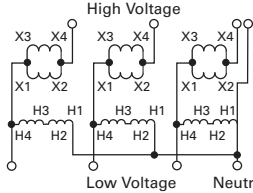


Diagram R ①

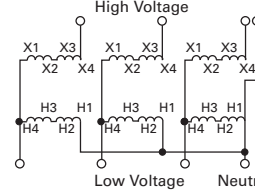


Diagram S ①

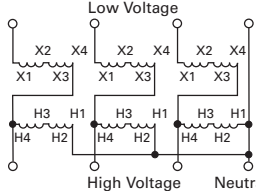


Diagram T

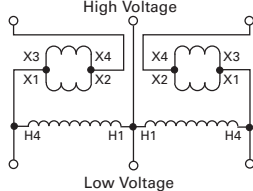
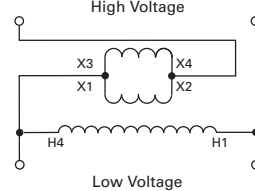


Diagram U



Note

① **WARNING!** If input is three-wire, "neutral" connection must be isolated and insulated! When used to supply a three-phase, four-wire load, the source must be three-phase, four-wire wye.

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Medium Voltage Distribution Transformers

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.

Single- and Three-Phase

- Ventilated, NEMA 3R enclosure standard
- Suitable for indoor or outdoor applications
- Upright mounting only
- 220°C insulation system
- 150°C rise standard; 115°C or 80°C rise optional
- Available in single-phase ratings 15–333 kVA
- Available in single-phase ratings 25–167 kVA; in three-phase ratings 15–1500 kVA

Application Description

U.S. DOE 10 CFR Part 431 compliant energy-efficient transformers are specifically designed to meet the energy efficiency standards set forth in U.S. DOE 10 CFR Part 431. Compliant transformers are optimized to offer maximum efficiency at 50% of nameplate rating.

Transformers that are currently specifically excluded from the scope of DOE 10 CFR Part 431 include:

- Liquid-filled transformers below 10 kVA
- Dry-type transformers below 15 kVA
- AC and DC drives transformers
- Rectifier transformers designed for high harmonics
- Autotransformers
- Non-distribution transformers, such as UPS transformers
- Special impedance or regulation transformers
- Regulating transformers
- Sealed and non-ventilated transformers
- Machine tool transformers
- Welding transformers
- Transformers with tap ranges greater than 15%
- Transformers with a frequency other than 60 Hz
- Grounding transformers
- Testing transformers

DOE 10 CFR Part 431 Efficiency Levels

Tables of Energy Efficiency Dry-Type Distribution Transformers—20–45 kV BIL

Single-Phase		Three-Phase	
kVA	Efficiency	kVA	Efficiency
15	98.10	15	97.50
25	98.33	30	97.90
37.5	98.49	45	98.10
50	98.60	75	98.33
75	98.73	112.5	98.49
100	98.82	150	98.60
167	98.96	225	98.73
250	99.07	300	98.82
333	99.14	500	98.96
—	—	750	99.07
—	—	1000	99.14
—	—	1500	99.22

Features, Benefits and Functions

- 60 Hz operation (except as noted)
- Short-term overload capability as required by ANSI
- Meet NEMA ST-20 sound levels
- Meet federal energy efficiency requirements for dry-type transformers effective as of January 1, 2010

Standards and Certifications

- UL listed

**Industry Standards**

All Eaton dry-type distribution and control transformers are built and tested in accordance with applicable NEMA, ANSI and IEEE Standards.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified and exceed requirements of the Uniform Building Code (UBC), International Building Code (IBC) and California Code Title 24.

Product Description

Single-Phase—2010 Energy-Efficient

2400 Volts to 120/240 Volts—Aluminum Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
25	2 at +2.5%	2 at -2.5%	150	NH6	—	—	Included	T42D11S25E3R
37.5	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T42D11S37E3R
50	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T42D11S50E3R
75	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T42D11S75E3R
100	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	T42D11S99E3R
167	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	T42D11S67E3R
25	2 at +2.5%	2 at -2.5%	115	NH6	—	—	Included	T42D11F25E3R
37.5	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T42D11F37E3R
50	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T42D11F50E3R
75	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T42D11F75E3R
100	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	T42D11F99E3R
167	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	T42D11F67E3R
25	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T42D11B25E3R
37.5	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T42D11B37E3R
50	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T42D11B50E3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	T42D11B75E3R
100	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T42D11B99E3R
167	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T42D11B67E3R

4160 Volts to 120/240 Volts—Aluminum Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
25	2 at +2.5%	2 at -2.5%	150	NH6	—	—	Included	T46D11S25E3R
37.5	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T46D11S37E3R
50	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T46D11S50E3R
75	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T46D11S75E3R
100	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	T46D11S99E3R
167	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	T46D11S67E3R
25	2 at +2.5%	2 at -2.5%	115	NH6	—	—	Included	T46D11F25E3R
37.5	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T46D11F37E3R
50	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T46D11F50E3R
75	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T46D11F75E3R
100	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	T46D11F99E3R
167	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	T46D11F67E3R
25	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T46D11B25E3R
37.5	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T46D11B37E3R
50	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T46D11B50E3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	T46D11B75E3R
100	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T46D11B99E3R
167	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T46D11B67E3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Single-Phase—2010 Energy-Efficient

2

2400 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
25	2 at +2.5%	2 at -2.5%	150	NH6	—	—	Included	T42D11S25CUE3R
37.5	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T42D11S37CUE3R
50	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T42D11S50CUE3R
75	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T42D11S75CUE3R
100	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	T42D11S99CUE3R
167	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	T42D11S67CUE3R
25	2 at +2.5%	2 at -2.5%	115	NH6	—	—	Included	T42D11F25CUE3R
37.5	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T42D11F37CUE3R
50	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T42D11F50CUE3R
75	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T42D11F75CUE3R
100	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	T42D11F99CUE3R
167	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	T42D11F67CUE3R
25	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T42D11B25CUE3R
37.5	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T42D11B37CUE3R
50	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T42D11B50CUE3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	T42D11B75CUE3R
100	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T42D11B99CUE3R
167	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T42D11B67CUE3R

4160 Volts to 120/240 Volts—Copper Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
25	2 at +2.5%	2 at -2.5%	150	NH6	—	—	Included	T46D11S25CUE3R
37.5	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T46D11S37CUE3R
50	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T46D11S50CUE3R
75	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	T46D11S75CUE3R
100	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	T46D11S99CUE3R
167	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	T46D11S67CUE3R
25	2 at +2.5%	2 at -2.5%	115	NH6	—	—	Included	T46D11F25CUE3R
37.5	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T46D11F37CUE3R
50	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T46D11F50CUE3R
75	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	T46D11F75CUE3R
100	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	T46D11F99CUE3R
167	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	T46D11F67CUE3R
25	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T46D11B25CUE3R
37.5	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T46D11B37CUE3R
50	2 at +2.5%	2 at -2.5%	80	NH3	—	—	Included	T46D11B50CUE3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	T46D11B75CUE3R
100	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T46D11B99CUE3R
167	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	T46D11B67CUE3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

2400 Delta Volts to 480Y/277 Volts—Copper Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V42D47T45CUE3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D47T75CUE3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D47T12CUE3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D47T49CUE3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D47T22CUE3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D47T33CUE3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V42D47F55CUE3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V42D47T77CUE3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V42D47F45CUE3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D47F75CUE3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D47F12CUE3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D47F49CUE3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D47F22CUE3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D47F33CUE3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V42D47F55CUE3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V42D47F77CUE3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D47B45CUE3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D47B75CUE3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D47B12CUE3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D47B49CUE3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D47B22CUE3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V42D47B33CUE3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D47B55CUE3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D47B77CUE3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

2

4160 Delta Volts to 480Y/277 Volts—Copper Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V46D47T45CUE3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D47T75CUE3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D47T12CUE3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D47T49CUE3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D47T22CUE3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D47T33CUE3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V46D47T55CUE3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V46D47T77CUE3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V46D47F45CUE3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D47F75CUE3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D47F12CUE3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D47F49CUE3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D47F22CUE3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D47F33CUE3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V46D47F55CUE3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V46D47F77CUE3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D47B45CUE3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D47B75CUE3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D47B12CUE3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D47B49CUE3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D47B22CUE3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V46D47B33CUE3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D47B55CUE3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D47B77CUE3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

2400 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V42D28T45CUE3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D28T75CUE3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D28T12CUE3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D28T49CUE3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D28T22CUE3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D28T33CUE3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V42D28T55CUE3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V42D28T77CUE3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V42D28F45CUE3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D28F75CUE3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D28F12CUE3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D28F49CUE3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D28F22CUE3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D28F33CUE3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V42D28F55CUE3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V42D28F77CUE3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D28B45CUE3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D28B75CUE3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D28B12CUE3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D28B49CUE3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D28B22CUE3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V42D28B33CUE3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D28B55CUE3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D28B77CUE3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

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4160 Delta Volts to 208Y/120 Volts—Copper Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V46D28T45CUE3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D28T75CUE3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D28T12CUE3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D28T49CUE3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D28T22CUE3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D28T33CUE3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V46D28T55CUE3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V46D28T77CUE3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V46D28F45CUE3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D28F75CUE3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D28F12CUE3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D28F49CUE3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D28F22CUE3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D28F33CUE3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V46D28F55CUE3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V46D28F77CUE3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D28B45CUE3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D28B75CUE3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D28B12CUE3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D28B49CUE3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D28B22CUE3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V46D28B33CUE3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D28B55CUE3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D28B77CUE3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

2400 Delta Volts to 480Y/277 Volts—Aluminum Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V42D47T45E3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D47T75E3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D47T12E3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D47T49E3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D47T22E3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D47T33E3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V42D47T55E3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V42D47T77E3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V42D47F45E3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D47F75E3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D47F12E3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D47F49E3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D47F22E3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D47F33E3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V42D47F55E3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V42D47F77E3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D47B45E3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D47B75E3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D47B12E3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D47B49E3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D47B22E3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V42D47B33E3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D47B55E3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D47B77E3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

2

4160 Delta Volts to 480Y/277 Volts—Aluminum Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V46D47T45E3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D47T75E3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D47T12E3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D47T49E3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D47T22E3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D47T33E3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V46D47T55E3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V46D47T77E3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V46D47F45E3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D47F75E3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D47F12E3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D47F49E3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D47F22E3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D47F33E3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V46D47F55E3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V46D47F77E3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D47B45E3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D47B75E3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D47B12E3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D47B49E3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D47B22E3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V46D47B33E3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D47B55E3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D47B77E3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

2400 Delta Volts to 208Y/120 Volts—Aluminum Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V42D28T45E3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D28T75E3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V42D28T12E3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D28T49E3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D28T22E3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V42D28T33E3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V42D28T55E3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V42D28T77E3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V42D28F45E3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D28F75E3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V42D28F12E3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D28F49E3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D28F22E3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V42D28F33E3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V42D28F55E3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V42D28F77E3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D28B45E3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V42D28B75E3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D28B12E3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D28B49E3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V42D28B22E3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V42D28B33E3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D28B55E3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V42D28B77E3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Three-Phase—2010 Energy-Efficient

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4160 Delta Volts to 208Y/120 Volts—Aluminum Windings

kVA	Full Capacity Taps		°C Temp. Rise	Frame	Wiring Diagram Number	Weight Lbs (kg)	Weathershield	Style Number
	FCAN	FCBN						
45	2 at +2.5%	2 at -2.5%	150	NH3	—	—	Included	V46D28T45E3R
75	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D28T75E3R
112.5	2 at +2.5%	2 at -2.5%	150	NH4	—	—	Included	V46D28T12E3R
150	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D28T49E3R
225	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D28T22E3R
300	2 at +2.5%	2 at -2.5%	150	NJ1	—	—	Included	V46D28T33E3R
500	2 at +2.5%	2 at -2.5%	150	NJ2	—	—	Included	V46D28T55E3R
750	2 at +2.5%	2 at -2.5%	150	NJ3	—	—	Included	V46D28T77E3R
45	2 at +2.5%	2 at -2.5%	115	NH3	—	—	Included	V46D28F45E3R
75	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D28F75E3R
112.5	2 at +2.5%	2 at -2.5%	115	NH4	—	—	Included	V46D28F12E3R
150	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D28F49E3R
225	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D28F22E3R
300	2 at +2.5%	2 at -2.5%	115	NJ1	—	—	Included	V46D28F33E3R
500	2 at +2.5%	2 at -2.5%	115	NJ2	—	—	Included	V46D28F55E3R
750	2 at +2.5%	2 at -2.5%	115	NJ3	—	—	Included	V46D28F77E3R
45	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D28B45E3R
75	2 at +2.5%	2 at -2.5%	80	NH4	—	—	Included	V46D28B75E3R
112.5	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D28B12E3R
150	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D28B49E3R
225	2 at +2.5%	2 at -2.5%	80	NJ1	—	—	Included	V46D28B22E3R
300	2 at +2.5%	2 at -2.5%	80	NJ2	—	—	Included	V46D28B33E3R
500	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D28B55E3R
750	2 at +2.5%	2 at -2.5%	80	NJ3	—	—	Included	V46D28B77E3R

Note

Contact your local Eaton sales office for CE Mark transformer requirements. For other ratings or styles not shown, or for special enclosure types (including stainless steel), refer to Eaton. Frame drawings/dimensions information begins on **Page V2-T2-213**.

Dry-Type Distribution Transformers



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Standards and Certifications

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

2

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
Industrial Control Transformer									
MTE	5085	E46323	702X	—	LR27533	105	0.025–1.5	N/A	61558
MTK	5085	E46323	702X	—	LR27533	180	0.05–5	N/A	61558
Encapsulated Transformer									
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	—
Ventilated Transformer									
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.

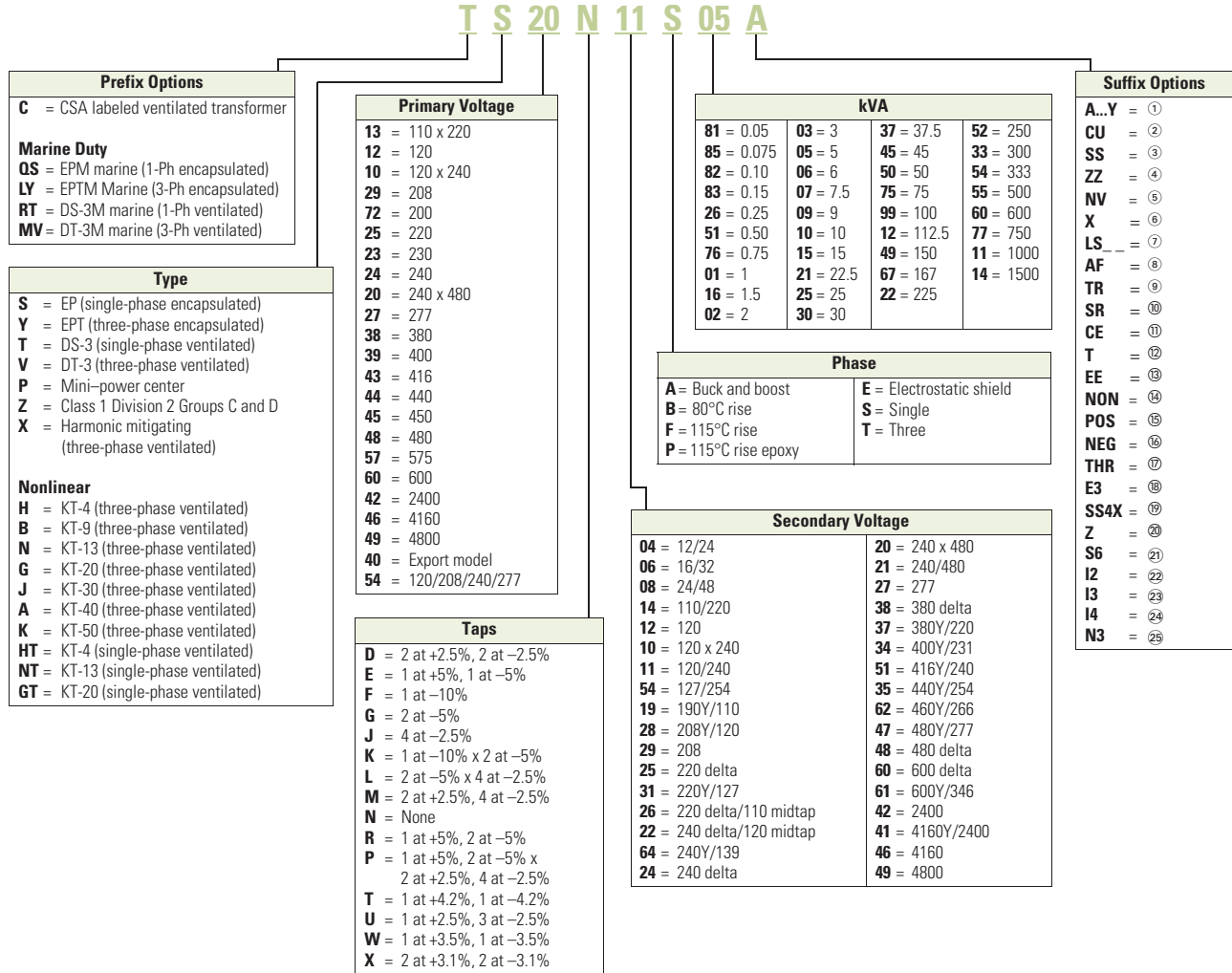
NEMA TP-2: Standard Test Method for Measuring the Energy Consumption of Distribution Transformers.

NEMA TP-3



Catalog Number Selection

General-Purpose, Energy-Efficient, Mini-Power Center, Shielded Isolation, Nonlinear, Buck-Boost, Marine Duty Transformers— Example: S20N11S05A



Notes

- ① Model number is not used on newly designed/re-designed transformers.
 - ② Copper windings.
 - ③ Grade 304 stainless steel enclosure (does not imply a NEMA 4X rating).
 - ④ Open type core and coil assembly.
 - ⑤ Totally enclosed non-ventilated DS-3 or DT-3.
 - ⑥ 50/60 Hz.
 - ⑦ Low sound design. LS47 indicates low sound equal to 47 dB; LS42 indicates 42 dB.
 - ⑧ Fungus proof.
 - ⑨ Certified test report of standard production tests for the specific serial number to be shipped.
 - ⑩ Certified sound level report.
 - ⑪ CE Marked.
 - ⑫ Thermal indicator embedded in center coil. Suffix "TT" indicates two thermal indicators of different temperature ratings, are installed.
 - ⑬ NEMA TP-1 efficient.
 - ⑭ 0° phase-shift (used with HMTs).
 - ⑮ +15° phase-shift (used with HMTs).
 - ⑯ -15° phase-shift (used with HMTs).
 - ⑰ -30° phase-shift (used with HMTs).
 - ⑱ CSL3 DOE 2007 energy-efficient.
 - ⑲ NEMA 4X Grade 304 stainless steel enclosure.
 - ⑳ Easy install base.
 - ㉑ Grade 316 stainless steel enclosure (does not imply NEMA 4X rating).
 - ㉒ Integral 2-inch infrared viewing window.
 - ㉓ Integral 3-inch infrared viewing window.
 - ㉔ Integral 4-inch infrared viewing window.
 - ㉕ NEMA Premium® Efficient.
- For Eaton's industrial control transformers catalog number selection, see **Page V2-T2-186**.
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.

Motor Drive Isolation Transformers—Example: MD145E89B

2

MD 145 E 89 B

Type	
MD	= DT-3
HD	= KT-4
ND	= KT-13

kVA			
075	= 7.5	175	= 175
11	= 11	220	= 220
14	= 14	275	= 275
20	= 20	330	= 330
27	= 27	440	= 440
34	= 34	550	= 550
40	= 40	660	= 660
51	= 51	770	= 770
63	= 63	880	= 880
75	= 75	1000	= 1000
93	= 93	1250	= 1250
118	= 118	1500	= 1500
145	= 145		

Taps ^①	
D	= 2 at +2.5%, 2 at -2.5%
E	= 1 at +5%, 1 at -5%

Voltage		
	Primary	Secondary
82	= 230 delta	208Y/120
83	= 208 delta	208Y/120
84	= 240 delta	480 delta
85	= 208 delta	230Y/133
86	= 208 delta	460Y/266
87	= 208 delta	480 delta
88	= 230 delta	230Y/133
89	= 230 delta	460Y/266
90	= 230 delta	575Y/332
91	= 460 delta	230Y/133
92	= 460 delta	460Y/266
93	= 460 delta	575Y/332
94	= 575 delta	230Y/133
95	= 575 delta	460Y/266
96	= 575 delta	575Y/332
97	= 575 delta	480 delta
98	= 600 delta	480 delta

Suffix Options	
Y	= Encapsulated (Type EPT) design
ES	= Electrostatic shield
CU	= Copper windings
F	= 115°C rise
B	= 80°C rise
X	= 50/60 Hz

Notes

^① For other tap combinations, contact your local Eaton sales office.

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.

Product Selection

Single-Phase Transformers

How to Select Single-Phase Units

1. Determine the primary (source) voltage—the voltage presently available.
2. Determine the secondary (load) voltage—the voltage needed at the load.
3. Determine the kVA load:
 - If the load is defined in kVA, a transformer can be selected from the tabulated data
 - If the load rating is given in amperes, determine the load kVA from the chart (below right). To determine kVA when volts and amperes are known, use the formula:

$$\text{kVA} = \frac{\text{Volts} \times \text{Amperes}}{1000}$$

- If the load is an AC motor, determine the minimum transformer kVA from the chart at the right
 - Select a transformer rating equal to or greater than the load kVA.
4. Define tap arrangements needed.
 5. Define temperature rise.

Using the above procedure, select the transformer from the listings in this catalog.

Single-Phase AC Motors

Horsepower	Full Load Amperes				Minimum Transformer kVA ^①
	115 Volts	208 Volts	220 Volts	230 Volts	
1/6	4.4	2.4	2.3	2.2	0.53
1/4	5.8	3.2	3.0	2.9	0.70
1/3	7.2	4.0	3.8	3.6	0.87
1/2	9.8	5.4	5.1	4.9	1.18
3/4	13.8	7.6	7.2	6.9	1.66
1	16	8.8	8.4	8	1.92
1-1/2	20	11.0	10.4	10	2.40
2	24	13.2	12.5	12	2.88
3	34	18.7	17.8	17	4.10
5	56	30.8	29.3	28	6.72
7-1/2	80	44	42	40	9.6
10	100	55	52	50	12.0

Full Load Current in Amperes—Single-Phase Circuits

kVA	Voltage									
	120	208	220	240	277	480	600	2400	4160	
0.25	2.0	1.2	1.1	1.0	0.9	0.5	0.4	0.10	0.06	
0.50	4.2	2.4	2.3	2.1	1.8	1.0	0.8	0.21	0.12	
0.75	6.3	3.6	3.4	3.1	2.7	1.6	1.3	0.31	0.18	
1	8.3	4.8	4.5	4.2	3.6	2.1	1.7	0.42	0.24	
1.5	12.5	7.2	6.8	6.2	5.4	3.1	2.5	0.63	0.36	
2	16.7	9.6	9.1	8.3	7.2	4.2	3.3	0.83	0.48	
3	25	14.4	13.6	12.5	10.8	6.2	5.0	1.2	0.72	
5	41	24.0	22.7	20.8	18.0	10.4	8.3	2.1	1.2	
7.5	62	36	34	31	27	15.6	12.5	3.1	1.8	
10	83	48	45	41	36	20.8	16.7	4.2	2.4	
15	125	72	68	62	54	31	25	6.2	3.6	
25	208	120	114	104	90	52	41	10.4	6.0	
37.5	312	180	170	156	135	78	62	15.6	9.0	
50	416	240	227	208	180	104	83	20.8	12.0	
75	625	360	341	312	270	156	125	31.3	18.0	
100	833	480	455	416	361	208	166	41.7	24.0	
167	1391	802	759	695	602	347	278	69.6	40.1	

Notes

^① If motors are started more than once per hour, increase minimum transformer kVA by 20%.

When motor service factor is greater than 1, increase full load amperes proportionally. Example: If service factor is 1.15, increase above ampere values by 15%.

Three-Phase Transformers

2

How to Select Three-Phase Units

1. Determine the primary (source) voltage—the voltage presently available.
2. Determine the secondary (load) voltage—the voltage needed at the load.
3. Determine the kVA load:
 - If the load is defined in kVA, a transformer can be selected from the tabulated data
 - If the load rating is given in amperes, determine the load kVA from the chart (below right). To determine kVA when volts and amperes are known, use the formula:

$$\text{kVA} = \frac{\text{Volts} \times \text{Amperes} \times 1.732}{1000}$$

- If the load is an AC motor, determine the minimum transformer kVA from the chart at the right
 - Select a transformer rating equal to or greater than the load kVA
4. Define tap arrangements needed.
 5. Define temperature rise.

Using the above procedure, select the transformer from the listings in this catalog.

Three-Phase AC Motors

Horsepower	Full Load Amperes					Minimum Transformer kVA ^①
	208 Volts	230 Volts	380 Volts	460 Volts	575 Volts	
0.5	2.2	2.0	1.2	1.0	0.8	0.9
3/4	3.1	2.8	1.7	1.4	1.1	1.2
1	4.0	3.6	2.2	1.8	1.4	1.5
1.5	5.7	5.2	3.1	2.6	2.1	2.1
2	7.5	6.8	4.1	3.4	2.7	2.7
3	10.7	9.6	5.8	4.8	3.9	3.8
5	16.7	15.2	9.2	7.6	6.1	6.3
7.5	24	22	14	11	9	9.2
10	31	28	17	14	11	11.2
15	46	42	26	21	17	16.6
20	59	54	33	27	22	21.6
25	75	68	41	34	27	26.6
30	88	80	48	40	32	32.4
40	114	104	63	52	41	43.2
50	143	130	79	65	52	52
60	170	154	93	77	62	64
75	211	192	116	96	77	80
100	273	248	150	124	99	103
125	342	312	189	156	125	130
150	396	360	218	180	144	150
200	528	480	291	240	192	200

Full Load Current in Amperes—Three-Phase Circuits

kVA	Voltage						
	208	240	380	480	600	2400	4160
3	8.3	7.2	4.6	3.6	2.9	0.72	0.42
6	16.6	14.4	9.1	7.2	5.8	1.4	0.83
9	25	21.6	13.7	10.8	8.6	2.2	1.2
15	41.7	36.1	22.8	18.0	14.4	3.6	2.1
22.5	62.4	54.1	34.2	27.1	21.6	5.4	3.1
30	83.4	72.3	45.6	36.1	28.9	7.2	4.2
37.5	104	90.3	57.0	45.2	36.1	9.0	5.2
45	124	108	68.4	54.2	43.4	10.8	6.3
50	139	120	76	60.1	48.1	12.0	6.9
75	208	180	114	90	72	18.0	10.4
112.5	312	270	171	135	108	27.1	15.6
150	416	360	228	180	144	36.1	20.8
225	624	541	342	270	216	54.2	31.3
300	832	721	456	360	288	72.2	41.6
500	1387	1202	760	601	481	120	69.4
750	2084	1806	1140	903	723	180	104
1000	2779	2408	1519	1204	963	241	139

Notes

① If motors are started more than once per hour, increase minimum transformer kVA by 20%.

When motor service factor is greater than 1, increase full load amperes proportionally. Example: If service factor is 1.15, increase above ampere values by 15%.

Options and Accessories

(Order separately)

Weathershield Kit

A weathershield kit consisting of a front and rear cover shield must be installed on all ventilated dry-type distribution transformers when the unit is located outdoors. The shields protect the transformer top ventilation openings against rain but allow for proper

ventilation. Field installation hardware is not required. Refer to specific transformer listing for selection of weathershield kit. Proper installation provides a NEMA 3R rating.

Note: For 304 stainless steel, add the suffix 'S' to the catalog number.

Weathershield Kit



Weathershield Kit

Fits Frame Size(s) ①	Catalog Number ②
809, 810, 811, 816, 817, 818	WS11
814, 814E	WS13
815	WS15
819, 820	WS16
808, 908, 909, 910, 911, 912, 910A, 911A, 912A	WS31
912B, 912Z	WS38
812, 813, 913A, 913B, 914A, 915A, 916, 914B, 915B	WS33
914D, 915D, 914Z, 915Z	WS39
916A, 916B, 912Z	WS19
917, 918, 918A	WS34
919, 920, 919E, 919EX, 920E, 920EX	WS35
922	WS36
923	WS37
842	WS45
843	WS43
844	WS44

Terminal Extension Kit

A terminal extension kit is used to allow front access to the rear terminals on most 500 and 750 kVA transformers (transformers on frames 919 and 920) when insufficient space is available at the rear of the transformer. Eaton recommends a minimum 6-inch clearance from the wall to maintain proper ventilation.

Terminal Extension Kit

Fits Frame Size(s) ①	Bus Material	Catalog Number ②
919	Aluminum	EXT55AL
919	Copper	EXT55CU
920	Aluminum	EXT77AL
920	Copper	EXT77CU

Wall-Mounting Bracket

Wall-mounting brackets are used to wall-mount most 15 through 75 kVA ventilated Type DS-3 and DT-3 transformers. See availability guide. This bracket allows for

a 6-inch clearance from the wall as recommended by Eaton.

Wall-mounting brackets are compatible with the following frames.

Wall-Mounting Bracket



Availability Guide Wall-Mounting Bracket WMB01

Frame Sizes ①	Catalog Number ②
Type DS-3 (Single-Phase Compatible)	
809, 810, 811, 812, 813, 815, 816, 817, 818, 835, 836, 837, 814A, 842	WMB01
Type DT-3, K-Factor, Drive Isolation (Three-Phase Compatible)	
908, 909, 910, 911, 912, 910A, 911A, 912A, 913A, 913B, 914A, 914B, 915A, 915B, 921B, 914D, 915D, 912Z, 914Z, 915Z	WMB01

Notes

- ① Effective June 1, 2001, frame numbers will have a prefix of FR, e.g., **FR819**. Dimensions, accessories and so on are still applicable as if the FR did not exist.
- ② For Grade 304 stainless steel weathershields, add the suffix "S" to a catalog number, e.g., **WS31S**.

Terminal Lug Kits for Type DT-3 Transformers

Typical Sizing	Terminal Lugs Cable Range	Quantity	Hardware Bolt Size	Quantity	Catalog Number
15–37.5 kVA single-phase	#14–#2	8	1/4-20 x 3/4	8	LKS1
15–45 kVA three-phase	#6–250 kcmil	4			
50–75 kVA single-phase	#6–250 kcmil	12	1/4-20 x 3/4	8	LKS2
75–112.5 kVA three-phase			1/4-20 x 1-3/4	8	
100–167 kVA single-phase	#6–250 kcmil	3	1/4-20 x 3/4	3	LKS3
150–300 kVA three-phase	#2–600 kcmil	22	3/8-16 x 2	16	
500 kVA three-phase	#2–600 kcmil	29	3/8-16 x 2	18	LKS4

Rodent Screens

Description	Frame Size(s) ①	Catalog Number
Rodent screens are used to discourage entry by birds or rodents.	908, 909	RS01
	910A, 911, 912	RS02
	913B, 914B, 915B	RS03
	916	RS04
	917, 918, 918A	RS05
	919, 920, 919E, 919EX, 920E, 920EX	RS06
	916A, 916B	RS07
	922	RS08
	923	RS09
	814, 821, 814E	RS11
	815	RS12
	816	RS13
	817, 818	RS14
	819, 820	RS15
	842	RS42
	843	RS43
	844	RS44
912B, 912Z	RS16	
914D, 915D, 914Z, 915Z	RS17	
916Z	RS07	

Replacement Parts for Mini-Power Centers

Frame	Deadfront Cover (Breaker Cover)	Front Cover
283	47-37503	7074C98H04
284	47-37503-2	7074C98H01
285	47-37503-3	7074C98H02
286	47-37503-4	7074C98H02
287	47-37503-5	7074C98H03
289	47-37459	7074C44H01
290	47-37459-2	7074C44H02
291	47-37459-3	7074C44H03
289A	47-42072-1	7074C44H01
290A	47-42072-2	7074C44H02
291A	47-42072-3	7074C44H03

Notes

① Effective June 1, 2001, frame numbers will have a prefix of FR, e.g., **FR819**. Dimensions, accessories and so on are still applicable as if the FR did not exist.

Lugs are rated Al/Cu and are suitable for use with either aluminum or copper conductors.

Case Parts for Ventilated Units

Frame(s) ①	Front Panel (Upper)	Front Panel (Lower)	Back Panel (Upper)	Back Panel (Lower)	Front or Back Panel (Cutout Cover Plate)	Top Cover	Side Panel (Two Required per Transformer)	Bottom
Single-Phase								
809	7073C16P03	—	7073C16P03	—	—	7073C17P01	7073C18P04	7073C14P03
810	7073C16P01	—	7073C16P01	—	—	7073C17P01	7073C18P01	7073C14P01
811	7073C16P01	—	7073C16P01	—	—	7073C17P01	7073C18P01	7073C14P01
812	7073C16P02	—	7073C16P02	—	—	7073C17P02	7073C18P02	7073C14P02
813	7073C16P02	—	7073C16P02	—	—	7073C17P02	7073C18P02	7073C14P02
814, 814E	7073C54P01	—	7073C54P01	—	—	7073C17P03	7073C18P05	7073C14P04
815	47-39433	—	47-39433	—	—	47-39431	47-39430	47-39429
816	47-40452	—	47-40452	—	—	47-40453	47-40451	47-40449
817	47-40457	—	47-40457	—	—	47-40458	47-40456	47-40454
818	47-40457	—	47-40457	—	—	47-40458	47-40456	47-40454
819	47-40574	—	47-40574	—	—	47-40575	47-40573	47-40459
820	47-40574	—	47-40574	—	—	47-40575	47-40573	47-40459
842	47-54828-2	—	47-54828-2	—	—	47-54829-2	47-54827-2	47-55335-2
843	47-54828-4	—	47-54828-4	—	—	47-54829-4	47-54827-4	47-55335-3
844	47-54828-5	—	47-54828-5	—	—	47-54829-5	47-54827-5	47-55335-5
Three-Phase								
908	7073C37P01	—	7073C37P01	—	—	1714C45P01	1714C44P03	7073C20P05
909	7073C37P01	—	7073C37P01	—	—	1714C45P01	1714C44P03	7073C20P05
910	1714C46P01	—	1714C46P01	—	—	1714C45P01	1714C44P01	7073C20P01
911	1714C46P01	—	1714C46P01	—	—	1714C45P01	1714C44P01	7073C20P01
912	1714C46P01	—	1714C46P01	—	—	1714C45P01	1714C44P01	7073C20P01
916	1714C60P01	—	1714C60P01	—	—	1714C58P01	1714C56P01	7073C20P03
917	47-44973-1	—	47-44973-1	—	—	1714C67P01	1714C64P01	7073C20P04
918	47-44973-1	—	47-44973-1	—	—	1714C67P01	1714C64P01	7073C20P04
919, 919E, 919EX	2D46331P03	2D46331P04	2D46331P03	2D46331P04	2D46331P01	2D46331P02	2D46332P01	2D46331P04
920, 920E, 920EX	2D46331P03	2D46331P04	2D46331P03	2D46331P04	2D46331P01	2D46331P02	2D46332P01	2D46331P04
922	2D46391H06	2D46391H08	2D46391H03	2D46391H08	—	2D46391H02	2D46392H01	—
923	47-45927-1	—	47-45927-1	—	—	47-45926-1	47-45925-1	47-45759-1
910A	47-40592	—	47-40592	—	—	1714C45P01	47-40591	47-40589
911A	47-40592	—	47-40592	—	—	1714C45P01	47-40591	47-40589
912A	47-40592	—	47-40592	—	—	1714C45P01	47-40591	47-40589
912B	47-49323-1	—	47-49323-1	—	—	47-49322-1	47-49321-1	47-49320-1
913A	1714C47P03	—	1714C47P03	—	—	1714C45P02	1714C44P07	7073C30P02
913B	47-40580	—	47-40580	—	—	1714C45P02	47-40578	47-41792
914A	1714C47P03	—	1714C47P03	—	—	1714C45P02	1714C44P07	7073C30P02
914B	47-40580	—	47-40580	—	—	1714C45P02	47-40578	47-41792
914D	47-49317-1	—	47-49317-1	—	—	47-49316-1	47-49315-1	47-49314-1
915A	1714C47P03	—	1714C47P03	—	—	1714C45P02	1714C44P07	7073C30P02
915B	47-40580	—	47-40580	—	—	1714C45P02	47-40578	47-41792
915D	47-49317-1	—	47-49317-1	—	—	47-49316-1	47-49315-1	47-49314-1
916A	47-41790	—	47-41790	—	—	47-41791	47-41789	47-41788
918A	47-41801	—	47-41801	—	—	47-41802	47-41800	47-41802
912Z	47-49323-1	—	47-49323-1	—	—	47-49322-1	47-49991-1	47-49989-1
915Z	47-49317-1	—	47-49317-1	—	—	47-49316-1	47-49994-1	47-49995-1
916Z	47-49992-1	—	47-49992-1	—	—	47-41791	47-49988-1	47-49987-1

Notes

① Effective June 1, 2001, frame numbers will have a prefix of FR, e.g., **FR819**. Dimensions, accessories and so on are still applicable as if the FR did not exist.

Parts listed are for standard catalog listed transformers. Units with modifications may require different parts. (Frame number from transformer nameplate required.) Transformer nameplate and UL label are not field replaceable.

Technical Data and Specifications

Customer-Furnished Connecting Cables

Eaton recommends that external cables be rated 90°C (sized at 75°C ampacity) for encapsulated designs and 75°C for ventilated designs.

Primary and secondary terminal lugs are not included. Lug kits are available separately.

Overload Capability

Short-term overload capacity is designed into transformers as required by ANSI. Dry-type distribution transformers will deliver 200% nameplate load for one-half hour, 150% load for one hour and 125% load for four hours without being damaged, provided that a constant 50% load precedes and follows the overload. See ANSI C57.96-01.250 for additional limitations.

Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Seismically Qualified

Eaton manufactured dry-type distribution transformers are seismically qualified, and exceed requirements of the Uniform Building Code (UBC) and California Code Title 24.

Taps

Primary taps are available in most ratings to allow compensation for source voltage variations.

Series-Multiple Windings

Series-multiple windings consist of two similar coils in each winding that can be connected in series or parallel (multiple). Transformers with series-multiple windings are designated with a "x" or "/" between the voltage ratings, such as voltages of "120/240" or "240 x 480." If the series-multiple winding is designated by an "x," the winding can be connected only for a series or parallel. With the "/" designation, a midpoint also becomes

available in addition to the series or parallel connection. As an example, a 120 x 240 winding can be connected for either 120 (parallel) or 240 (series), but a 120/240 winding can be connected for 120 (parallel), 240 (series) or 240 with a 120 midpoint.

Enclosures

Eaton's ventilated transformers—Types DS-3, DT-3, MD and KT—use a NEMA 2 rated (drip-proof) enclosure as standard, and are rated NEMA 3R with the addition of weathershields. Eaton encapsulated—Types EP, EPT, EPZ and EPTZ—and totally enclosed, non-ventilated (Types DS-3E and DT-3E) transformers use a NEMA 3R rated enclosure.

Buck-Boost Transformers

An autotransformer has only one winding, and is therefore smaller and more economical than the conventional two-winding transformer. In an autotransformer, the primary and secondary are electrically and mechanically connected. The required secondary voltage is obtained by "tapping-off" from the single winding.

Buck-boost autotransformers are insulated units with 120 x 240 or 240 x 480 volt primaries and 12/24, 16/32 or 24/48 volt secondaries, and provide a very economical method for minor voltage adjustments where circuit isolation is not needed.

Autotransformers can be used only where local electrical codes permit, and isolation of the two circuits is not required.

Nonlinear Ratings

The transformers shall be specifically designed to supply circuits with a harmonic profile equal to or less than a K-factor of 4 or 13, as described in the following table, without exceeding specified temperature rise.

Nonlinear Ratings

Harmonic	K-4	K-13
Fundamental	100.0%	100.0%
3rd	34.0%	70.0%
5th	22.0%	42.0%
7th	3.0%	5.0%
9th	1.0%	3.0%
11th	0.7%	3.0%
13th	0.5%	1.0%
15th	0.3%	0.7%
17th	0.3%	0.6%

Sound Levels

All Eaton 600 volt class general-purpose dry-type distribution transformers are designed to meet NEMA ST-20 sound levels listed here. These are the sound levels measured in a soundproof environment. Actual sound levels measured at an installation will likely be higher (up to 15 dB greater) due to electrical connections and environmental conditions. Lower sound levels are available and should be specified when the transformer is going to be installed in an area where sound may be a concern.

All Eaton general-purpose dry-type distribution transformers are designed with sound levels lower than NEMA ST-20 maximum levels. However, consideration should be given to the specific location of the

transformers and their installation to minimize the potential for sound transmission to surrounding structures and sound reflection. It is suggested that the following installation methods be included:

1. If possible, mount the transformer away from corners of walls or ceilings. For installation that must be near a corner, use sound-absorbing materials on the walls and ceilings if necessary to eliminate reflection.
2. Provide a solid foundation for mounting the transformer and then use vibration dampening mounts if not already provided in the transformer. (Eaton encapsulated EP/EPT designs use a special encapsulation system and ventilated DS/DT-3 designs contain a built-in vibration dampening system to minimize and isolate sound transmission.)
3. Provide flexible conduit to make the connections to the transformer.
4. Locate the transformer as far as possible from areas where high sound levels are undesirable.

Average Sound Levels ^①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

^① Currently being reviewed and revised by NEMA.

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Aluminum Wound ^①

Type EP 115°C Rise

kVA	Weight Lbs		Losses in Watts		Efficiency				% Regulation		% Impedance ^②		Sound Level dB
	Al	Cu	No Load	Total	1/4 Load	1/2 Load	3/4 Load	Full Load	100% P.F.	80% P.F.	Min.	Max.	
0.05	—	7	6	9	65.3	79.6	84.3	85.6	5.9	6.4	5.5	9.5	45
0.075	—	7	7	14	66.0	79.0	82.5	82.8	9.4	9.2	7.5	11.0	45
0.10	—	7	5	15	82.4	86.9	87.7	86.5	10.3	10.6	8.0	12.0	45
0.15	—	8	7	20	83.4	88.2	88.9	87.8	9.0	9.6	8.0	12.0	45
0.25	—	12	14	29	79.0	87.2	89.5	89.6	5.9	7.5	7.5	9.5	45
0.5	—	13	20	47	85.1	90.3	91.4	91.4	5.5	7.0	5.0	7.0	45
0.75	—	20	29	57	86.0	91.3	92.7	92.9	3.9	5.0	4.0	6.0	45
1	—	30	24	60	90.8	93.9	94.5	94.4	3.8	4.9	3.8	5.8	45
1.5	65	40	30	90	92.5	94.7	95.0	94.6	4.1	5.2	2.5	4.5	45
2	113	40	30	100	94.2	95.7	95.8	95.4	3.6	4.7	3.3	5.3	45
3	—	69	61	135	92.0	95.0	95.7	95.7	2.5	3.5	2.5	4.1	45
5	—	120	104	215	91.8	95.0	95.8	95.9	2.3	3.3	2.0	4.6	45
7.5	123	133	129	250	93.2	96.0	96.7	95.9	1.5	2.4	2.4	3.4	45
10	193	208	153	295	93.9	96.3	97.0	97.2	1.5	2.5	2.0	3.3	50
15	216	235	209	435	94.4	96.6	97.1	97.2	1.6	2.8	1.6	3.6	50
25	385	414	191	440	96.8	98.0	98.3	98.4	1.1	2.5	1.6	4.2	50
37.5	735	856	225	370	97.4	98.3	98.5	98.4	1.2	2.6	2.8	4.0	50

Type EPT 115°C Rise ^③

kVA	Weight Lbs		Losses in Watts		Efficiency				% Regulation		% Impedance ^②		Sound Level dB
	Al	Cu	No Load	Total	1/4 Load	1/2 Load	3/4 Load	Full Load	100% P.F.	80% P.F.	Min.	Max.	
3	116	123	110	165	87.3	92.6	94.3	94.9	2.1	6.1	2.4	8.0	45
6	143	153	145	275	90.9	94.5	95.5	95.7	2.2	3.1	2.9	4.9	45
9	166	178	195	375	91.6	95.0	95.9	96.1	2.0	2.8	2.0	3.6	45
15	275	300	265	545	93.0	95.7	96.5	96.6	1.9	3.1	1.9	3.9	50
30	422	504	250	665	96.5	97.7	98.0	97.9	1.5	2.5	1.8	3.8	50
45	660	745	300	740	97.2	98.2	98.4	98.5	1.0	2.1	1.8	4.0	50
75	1275	1450	400	945	97.7	98.6	98.8	98.8	0.8	1.6	1.7	3.4	55

Notes

^① Typical values for aluminum windings. Contact Eaton for values of copper windings. Up-to-date design data is available at www.eaton.com.

^② Actual impedance may be $\pm 7.5\%$.

^③ Type EPT transformers 3–15 kVA are T-T connected.

Performance data is based upon 480 volt Delta primary and a 208Y/120 volt secondary for three-phase transformers; 240 x 480 volt primary and a 120/240 volt secondary for single-phase transformers. All data is subject to future revision. Refer to Eaton for 5 kV class information. All data is subject to future revision.

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Aluminum Wound

2

Type DS-3 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	196	80	518	97.5	97.7	97.3	96.7	2.0	2.5	3.46	1.9	2.9	45	97.70	910	303
25	261	110	736	98.2	98.2	97.8	97.3	1.6	2.1	2.97	1.6	2.5	45	98.00	1477	492
38	304	132	1141	98.3	98.1	97.7	97.1	1.8	3.8	4.85	4.0	2.7	45	98.20	1056	352
50	396	145	1699	98.4	98.1	97.5	96.8	2.1	4.2	5.32	4.3	3.1	45	98.30	1078	359
75	688	260	1622	98.4	98.6	98.3	97.9	1.5	2.7	3.46	2.9	1.8	50	98.50	3428	1143
100	699	300	2527	98.5	98.4	98.1	97.6	1.9	4.0	5.17	4.7	2.2	50	98.60	2596	865
167	1610	900	3987	68.7	98.7	98.4	98.0	1.4	6.8	9.70	9.5	1.8	55	98.70	1250	416

Type DS-3 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	246	80	519	97.8	97.8	97.3	96.8	2.1	3.1	3.9	2.6	2.9	45	97.70	773	244
25	373	300	766	97.7	98.1	98.0	97.7	1.4	2.8	3.3	2.8	1.9	45	98.00	1102	367
37.5	380	125	1182	98.2	98.4	98.1	97.8	2.0	3.1	4.1	2.9	2.8	45	98.20	616	205
50	590	300	417	98.4	98.3	97.9	97.4	1.8	4.1	5.2	5.2	0.2	45	98.30	1553	511
75	689	170	2356	98.5	98.2	97.6	97.0	2.7	5.6	6.9	6.3	2.9	50	98.50	1717	572

Type DS-3 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	360	115	269	97.4	98.3	98.4	98.4	0.8	1.7	2.0	1.8	1.0	45	97.70	1381	460
25	370	120	580	97.8	98.2	98.0	97.8	1.5	3.2	3.9	3.4	1.8	45	98.00	1046	348
37.5	565	150	834	98.1	98.4	98.1	97.8	1.5	3.3	4.1	3.6	1.8	45	98.20	1471	490
50	680	175	1014	98.4	98.5	98.4	98.1	1.5	3.4	4.2	3.9	1.7	45	98.30	1733	577
75	900	260	1387	98.3	98.6	98.5	98.2	1.4	3.5	4.3	4.0	1.5	50	98.50	2423	807

Type DT-3 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	204	95	778	96.6	96.7	96.0	95.1	4.8	4.0	4.8	1.4	4.6	45	97.00	382	127
30	291	165	1207	97.2	97.3	96.9	96.2	3.7	5.6	4.6	3.0	3.5	45	97.50	479	159
37.5	381	210	1428	97.5	97.5	97.0	96.4	3.5	5.5	4.5	3.1	3.2	45	97.70	484	161
45	351	210	1911	97.5	97.4	96.7	96.0	3.8	6.3	5.1	3.4	3.8	45	97.70	564	188
50	531	270	1316	97.7	98.1	97.9	97.5	2.2	4.0	3.2	2.4	2.1	45	98.00	999	333
75	553	300	2917	97.9	97.7	97.0	96.3	3.6	6.6	5.3	4.0	3.5	50	98.00	561	187
112.5	793	400	3693	98.0	98.0	97.5	96.9	3.2	7.5	6.0	5.2	2.9	50	98.20	1049	350
150	913	490	4923	98.2	98.0	97.5	96.9	3.2	6.5	5.3	4.4	3.0	50	98.30	1518	506
225	1343	650	6476	98.4	98.2	97.8	97.2	2.8	6.3	5.1	4.4	2.6	55	98.50	2204	734
300	1597	750	8239	98.5	98.3	97.9	97.3	2.9	8.9	7.6	7.2	2.5	55	98.60	2097	699
500	2590	1400	9782	98.6	98.7	98.5	98.1	1.9	8.2	7.2	7.0	1.7	60	98.70	3769	1256
750	3340	1800	12,692	98.8	98.9	98.7	98.4	1.8	8.9	8.0	7.9	1.5	64	98.80	4521	1507

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Aluminum Wound

Type DT-3 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	202	100	743	96.7	96.8	96.2	95.4	4.4	3.9	4.4	1.2	4.3	45	97.00	383	127
30	311	165	1492	97.3	97.1	96.3	95.5	4.5	4.8	4.8	1.8	4.4	45	97.50	411	137
45	418	220	1458	97.8	97.9	97.5	97.0	2.8	5.4	4.6	3.7	2.8	45	97.70	550	183
50	556	270	1211	97.6	98.1	98.0	97.7	1.9	3.7	3.2	2.6	1.9	45	98.00	892	297
75	581	300	2415	97.9	97.9	97.5	96.9	3.0	6.7	5.9	5.1	2.8	50	98.00	758	252
112.5	829	440	3209	98.0	98.1	97.8	97.3	2.6	3.6	3.1	1.9	2.5	50	98.20	1301	433
150	996	530	3781	98.1	98.3	97.9	97.5	2.4	5.8	5.2	4.7	2.2	50	98.30	1534	511
225	1569	720	5205	98.4	98.4	98.1	97.8	2.2	6.8	6.2	5.8	2.0	55	98.50	1875	631
300	1908	830	6926	98.5	98.5	98.2	97.8	2.3	6.0	5.4	4.9	2.0	55	98.60	2678	872
500	3117	1650	6968	98.5	98.9	98.8	98.7	1.2	6.6	6.6	6.5	1.1	60	98.70	3930	1310
750	4884	2000	9335	98.9	99.1	99.0	98.8	1.3	8.7	9.0	8.9	1.0	64	98.80	4458	1486

Type DT-3 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	276	165	551	96.7	97.4	97.2	96.8	3.4	3.9	3.5	2.3	2.6	45	97.00	358	119
30	350	180	904	97.3	97.8	97.6	97.2	2.5	3.9	3.4	2.5	2.4	45	97.50	337	112
45	540	290	1027	97.7	98.2	98.2	97.9	1.7	3.5	3.3	2.9	1.6	45	97.70	953	317
75	810	360	1782	97.8	98.2	98.0	97.7	0.3	3.5	4.3	3.9	1.9	50	98.00	1006	355
112.5	944	470	2521	98.2	98.4	98.2	97.9	1.9	4.4	4.1	3.7	1.8	50	98.20	1554	518
150	1438	650	2760	98.2	98.6	98.5	98.3	1.5	4.8	4.7	4.5	1.4	50	98.30	1665	555
225	1746	830	4047	98.3	98.6	98.5	98.3	1.6	5.5	5.6	5.4	1.4	55	98.50	2003	667
300	2400	1100	5338	98.6	99.0	99.0	98.9	1.6	5.9	6.1	5.9	1.4	55	98.60	2655	885
500	3418	1800	5858	98.6	99.0	99.0	98.9	0.9	4.9	5.4	5.3	0.8	60	98.70	4462	1487

Type KT-4 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	206	100	883	96.7	96.5	95.6	94.6	5.5	5.2	5.5	1.8	5.2	45	97.00	375	125
30	311	165	1263	97.2	97.3	96.7	96.0	3.9	7.4	6.0	4.8	3.7	45	97.50	453	151
45	400	220	1554	97.7	97.7	97.3	96.7	3.2	5.9	4.8	3.8	3.0	45	97.70	710	236
75	547	300	2622	97.9	97.8	97.2	96.6	3.3	6.7	5.3	4.4	3.1	50	98.00	995	331
112.5	800	440	3525	98.0	98.0	97.6	97.0	3.0	7.4	6.0	5.3	2.7	50	98.20	1082	360
150	1010	530	4055	98.1	98.2	97.8	97.4	2.6	6.6	5.4	4.8	2.3	50	98.30	1574	524
225	1680	700	5879	98.3	98.3	97.9	97.5	2.6	7.6	6.3	5.9	2.3	55	98.50	1943	647
300	2122	1100	5895	98.4	98.6	98.4	98.1	1.9	6.8	5.9	5.7	1.6	55	98.60	2863	954
500	3201	1800	7054	98.5	98.9	98.8	98.7	1.3	5.9	5.4	5.2	1.1	60	98.70	4588	1529

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Aluminum Wound

2

Type KT-4 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	307	135	394	96.3	97.5	97.6	97.5	1.8	2.7	2.2	1.4	1.7	45	97.00	491	163
30	313	165	1344	97.4	97.3	96.6	95.9	4.1	5.1	4.6	2.4	3.9	45	97.50	584	194
45	400	220	1463	97.8	97.9	97.5	97.0	3.0	6.1	5.2	4.4	2.8	45	97.70	591	197
75	587	285	2355	97.9	97.9	97.5	97.0	2.9	6.7	5.9	5.2	2.8	50	98.00	823	274
112.5	947	470	2910	97.9	98.1	97.9	97.5	2.4	5.0	4.3	3.7	2.2	50	98.20	1447	482
150	1243	560	4119	98.1	98.2	97.8	97.4	2.5	6.6	5.7	5.2	2.4	50	98.30	1468	489
225	1680	700	5413	98.3	98.3	98.1	97.7	2.3	7.5	7.0	6.7	2.1	55	98.50	1719	573
300	2480	1100	5735	98.4	98.7	98.5	98.2	1.8	6.7	6.3	6.1	1.5	55	98.60	2547	849

Type KT-4 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	378	165	416	96.4	97.6	97.7	97.6	1.7	2.9	2.5	1.9	1.7	45	97.00	482	160
30	365	188	877	97.2	97.7	97.6	97.2	2.4	3.9	3.5	2.6	2.3	45	97.50	583	194
45	550	285	1055	97.4	98.1	98.0	97.8	1.8	3.7	3.4	2.9	1.7	45	97.70	708	236
75	774	360	1784	97.8	98.2	98.0	97.7	2.0	4.7	4.5	4.0	1.9	50	98.00	986	328
112.5	1380	550	1872	97.9	98.5	98.5	98.4	1.3	4.2	4.2	4.1	1.2	50	98.20	1577	525
150	1604	700	2728	98.0	98.5	98.5	98.3	1.4	4.4	4.5	4.3	1.4	50	98.30	1880	626
225	2336	850	3728	98.4	98.7	98.6	98.4	1.4	5.0	5.2	5.1	1.3	55	98.50	2647	882
300	2689	1100	4589	98.4	98.8	98.7	98.5	1.4	5.5	5.8	5.6	1.2	55	98.60	2610	870

Type KT-13 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	271	165	604	96.7	97.3	97.0	96.5	3.1	4.2	3.6	2.1	2.9	45	97.00	379	126
30	365	198	977	97.1	97.6	97.3	96.9	2.7	4.3	3.5	2.4	2.6	45	97.50	565	188
45	545	280	1215	97.5	98.0	97.8	97.4	2.2	4.2	3.3	2.6	2.1	45	97.70	890	277
75	812	360	2139	97.7	98.0	97.8	97.4	2.6	5.9	4.9	4.3	2.4	50	98.00	907	302
112.5	920	490	3059	98.0	98.2	97.8	97.4	2.4	5.0	4.1	3.4	2.3	50	98.20	1513	504
150	1221	530	4297	98.1	98.1	97.7	97.2	2.7	6.5	5.3	4.6	2.5	50	98.30	1790	597
225	1960	830	4461	98.3	98.6	98.3	98.0	1.9	6.6	6.1	5.9	1.6	55	98.50	1771	590
300	2358	1100	5931	98.4	98.6	98.4	98.2	1.9	7.2	6.3	6.0	1.6	55	98.60	2543	847

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Aluminum Wound

Type KT-13 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	332	165	432	96.6	97.6	97.6	97.4	1.9	3.2	2.8	2.2	1.8	45	97.00	409	136
30	390	200	903	97.3	97.8	97.6	97.2	2.5	4.4	3.6	2.8	2.3	45	97.50	420	120
45	548	280	1187	97.5	98.1	98.0	97.7	2.2	—	3.0	2.3	2.0	45	97.70	836	278
75	808	360	1850	97.8	98.1	97.8	97.5	2.4	5.6	4.8	4.3	2.2	50	98.00	805	268
112.5	990	540	2373	97.9	98.3	98.2	98.0	1.8	4.5	4.0	3.6	1.6	50	98.20	1303	434
150	1600	650	2372	98.1	98.5	98.4	98.1	1.3	3.4	3.0	2.8	1.1	50	98.30	1932	644
225	2306	850	4001	98.3	98.7	98.6	98.3	1.6	4.9	5.1	4.9	1.4	55	98.50	2508	836
300	3291	1100	4583	98.4	98.8	98.7	98.5	1.3	6.2	6.3	6.2	1.2	55	98.60	2851	950

Type KT-13 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation		% Imp. Trise +20	X Trise +20	R Trise +20	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF							
15	315	165	536	96.4	97.3	97.2	96.9	2.5	3.9	3.6	2.5	2.5	45	97.00	375	125
30	408	188	854	97.4	97.9	97.7	97.3	2.3	4.0	3.6	2.8	2.2	45	97.50	497	166
45	555	280	982	97.6	98.2	98.2	98.0	1.6	3.2	3.0	2.5	1.6	45	97.70	656	218
75	838	400	1289	97.8	98.4	98.5	98.4	1.3	3.0	2.9	2.6	1.2	50	98.00	1624	541
112.5	1367	550	1905	97.9	98.5	98.5	98.4	1.3	4.2	4.4	4.2	1.2	50	98.20	1171	390
150	1607	668	2474	98.2	98.6	98.6	98.4	1.4	4.6	4.7	4.5	1.2	50	98.30	1562	520
225	2582	850	3471	98.3	98.7	98.7	98.5	1.3	5.1	6.3	6.2	1.2	55	98.50	2159	719
300	3228	1100	3978	98.3	98.8	98.8	98.7	1.1	4.2	4.5	4.3	1.0	55	98.60	3255	1085

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Copper Wound

2

Type DS-3 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	270	80	605	97.6	97.5	96.9	96.3	3.5	4.2	4.2	2.3	3.5	45	97.70	551	183
25	406	115	732	97.9	98.1	97.7	97.3	—	—	3.5	2.5	2.5	45	98.00	1379	459
37.5	453	125	1154	98.2	98.1	97.6	97.0	2.7	3.7	4.8	4.0	2.7	45	98.20	1321	440
50	657	160	1159	98.3	98.4	98.1	97.7	2.0	3.3	3.8	3.8	2.0	45	98.30	1321	440
75	803	175	2259	98.5	98.3	97.7	97.1	2.8	4.8	6.5	5.8	2.8	50	98.50	2133	711
100	960	250	2504	98.6	98.4	98.0	97.5	2.3	4.3	5.5	5.0	2.3	50	98.60	2779	926
167	1665	570	3094	98.7	98.8	98.6	98.3	1.5	6.3	9.0	8.8	1.5	50	98.70	2865	955

Type DS-3 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	264	80	437	97.8	98.1	97.8	97.3	2.4	2.2	3.3	2.2	2.4	45	97.70	718	239
25	420	110	603	97.9	98.2	98.0	97.7	2.0	2.9	3.2	2.6	2.0	45	98.00	862	287
37.5	450	125	1217	98.2	98.0	97.5	96.9	2.9	4.5	5.9	5.1	2.9	45	98.20	1300	433
50	703	300	1409	98.4	98.4	98.0	97.6	2.2	3.8	4.7	4.1	2.2	—	98.30	1498	499
75	793	175	2178	98.5	98.3	97.8	97.2	2.7	4.7	6.2	5.6	2.7	50	98.50	2107	702

Type DS-3 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	407	115	293	97.3	98.2	98.3	98.2	1.2	1.7	1.8	1.4	1.2	45	97.70	375	125
25	430	300	679	97.9	98.4	98.3	98.1	1.5	2.6	3.0	2.6	1.5	45	98.00	494	164
37.5	685	300	729	98.1	98.6	98.6	98.5	1.1	2.2	2.6	2.3	1.1	45	98.20	617	205
50	799	180	1013	98.3	98.6	98.4	98.1	1.7	2.9	3.4	2.9	1.7	45	98.30	989	329
75	1042	250	1447	98.3	98.6	98.4	98.1	1.6	3.4	3.8	3.5	1.6	50	98.50	1015	338

Type DT-3 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	250	150	755	98.9	97.0	96.4	95.7	4.2	5.3	4.8	2.6	4.0	45	97.00	321	107
30	350	165	1100	97.3	97.5	97.0	96.5	3.2	4.5	5.2	4.1	3.1	45	97.50	614	204
37.5	415	210	1382	97.5	97.6	97.1	96.5	3.2	4.8	4.0	2.5	3.1	45	97.70	639	213
45	416	215	1786	97.4	97.4	96.9	96.2	3.6	5.5	4.6	3.0	3.5	45	97.70	637	212
50	647	270	1220	97.7	98.2	98.0	97.7	2.0	3.5	2.8	2.0	1.9	45	98.00	1072	357
75	643	320	2903	97.9	97.5	97.1	96.4	3.6	7.4	4.3	2.5	3.4	50	98.00	1015	338
112.5	876	420	3699	97.9	97.9	97.4	96.8	3.0	6.7	5.1	4.2	2.9	50	98.20	1185	395
150	1064	530	4269	98.1	98.2	97.8	97.3	2.7	5.3	4.3	3.5	2.5	50	98.30	1752	584
225	1569	560	7124	98.4	98.1	97.5	97.0	3.2	8.7	7.4	6.8	2.9	55	98.50	2498	832
300	2050	730	7959	98.4	98.3	97.9	97.4	2.6	6.7	5.5	4.9	2.4	55	98.60	2872	964
500	3681	1400	8292	98.8	98.9	98.7	98.4	1.6	7.4	6.8	6.7	1.4	60	98.70	3839	1279

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Copper Wound

Type DT-3 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	256	95	669	97.7	97.8	97.3	96.7	4.0	5.4	4.8	2.9	3.8	45	97.00	229	76
30	337	180	1077	97.7	97.8	97.3	96.8	3.0	6.2	4.6	3.5	3.0	45	97.50	433	144
45	446	215	1625	97.7	97.7	97.2	96.6	3.2	5.2	4.4	3.1	3.1	45	97.70	658	219
50	630	270	1213	97.8	98.2	98.0	97.7	2.0	3.5	3.0	2.3	1.9	45	98.00	960	320
75	662	320	2346	97.9	98.0	97.6	97.0	2.8	5.4	4.7	3.9	2.7	50	98.00	842	280
112.5	914	400	2953	98.1	98.2	97.9	97.4	2.5	5.7	5.0	4.5	2.3	50	98.20	1036	345
150	1132	530	3364	98.3	98.5	98.2	97.8	2.0	4.8	4.4	4.0	1.9	50	98.30	1605	535
225	2036	650	6445	98.4	98.3	97.8	97.3	2.9	8.8	8.1	7.7	2.6	55	98.50	1572	524
300	2325	830	6038	98.6	98.7	98.4	98.1	2.0	5.7	5.2	4.9	1.7	55	98.60	1860	620
500	3681	1400	7841	98.8	98.9	98.7	98.5	1.4	6.8	6.8	6.6	1.3	60	98.70	4033	1344

Type DT-3 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	349	135	390	96.6	97.7	97.7	97.6	1.8	2.4	2.1	1.3	1.7	45	97.00	449	150
30	410	210	823	97.3	97.9	97.7	97.4	2.1	3.4	3.0	2.1	2.0	45	97.50	493	164
45	504	200	1308	97.9	98.0	97.7	97.2	2.5	4.5	3.9	3.1	2.5	45	97.70	473	158
75	818	370	1837	97.9	98.2	98.0	97.7	2.0	9.3	4.3	3.8	2.0	50	98.00	937	312
112.5	1065	440	2409	98.1	98.3	98.0	97.6	1.8	3.8	3.3	2.8	1.8	50	98.20	1754	584
150	1410	650	3349	98.3	98.5	98.3	97.9	1.9	3.9	3.7	3.2	1.8	50	98.30	1593	531
225	2030	830	4096	98.4	98.7	98.5	98.3	1.6	5.4	5.4	5.2	1.5	55	98.50	2568	856
300	3041	1100	4646	98.5	98.8	98.7	98.5	1.4	5.6	6.1	6.0	1.2	55	98.60	3753	1251

Type KT-4 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	251	100	635	96.8	97.1	96.6	96.0	3.7	5.0	4.2	2.1	3.6	45	97.00	265	88
30	326	165	1134	97.4	97.5	97.1	96.5	3.5	5.3	4.3	2.9	3.2	45	97.50	504	168
45	479	220	1505	97.6	97.8	97.3	96.8	3.0	5.6	5.0	4.1	2.9	45	97.70	670	223
75	463	300	2883	97.9	97.7	97.1	96.4	3.6	7.1	5.9	4.7	3.4	50	98.00	975	325
112.5	977	440	2952	98.1	98.2	97.9	97.5	2.6	6.6	5.6	5.1	2.2	50	98.20	1031	344
150	1212	540	3716	98.3	98.4	98.0	97.6	2.4	6.0	5.1	4.6	2.1	50	98.30	1574	524
225	1815	650	5420	98.4	98.5	98.1	97.7	2.4	7.6	6.5	6.2	2.1	55	98.50	1694	565
300	2400	830	6259	98.6	98.6	98.4	98.0	2.2	6.3	5.2	4.9	1.8	55	98.60	2594	864

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Copper Wound

2

Type KT-4 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation			X	R	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF	% Imp.						
15	256	95	702	96.7	96.9	96.3	95.6	4.2	5.7	5.0	2.9	4.0	45	97.00	279	93
30	341	165	1007	97.4	97.6	97.3	96.8	3.0	4.8	4.2	3.1	2.8	45	97.50	466	155
45	526	220	1200	97.9	98.1	97.9	97.5	2.3	5.0	4.1	3.5	2.2	50	97.70	633	211
75	759	300	1715	98.1	98.3	98.1	97.8	1.9	5.0	4.5	4.1	1.9	50	98.00	929	309
112.5	1030	470	2735	98.0	98.3	98.0	97.7	2.2	4.4	3.8	3.2	2.0	50	98.20	1171	390
150	1631	650	3076	98.2	98.5	98.3	98.1	1.7	4.9	4.5	4.2	1.6	50	98.30	1250	416
225	1965	690	4434	98.5	98.6	98.4	98.1	1.9	5.6	5.3	5.0	1.7	55	98.50	1979	659
300	2337	830	6127	98.6	98.7	98.4	98.0	2.0	5.2	4.7	4.3	1.8	55	98.60	2187	729

Type KT-4 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation			X	R	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF	% Imp.						
15	365	165	371	97.0	98.0	98.1	98.0	1.5	2.3	2.1	1.5	1.4	45	97.00	499	166
30	424	210	787	97.3	97.9	97.8	97.6	2.0	3.2	2.9	2.2	1.9	45	97.50	659	219
45	653	290	977	97.4	98.1	98.1	98.0	1.6	3.1	3.0	2.5	1.5	45	97.70	925	308
75	640	350	1951	97.8	98.1	97.8	97.5	2.2	5.2	4.9	4.4	2.1	50	98.00	854	284
112.5	1264	560	2009	98.2	98.7	98.6	98.4	1.4	4.3	4.2	4.0	1.3	50	98.20	1449	483
150	1825	650	2873	98.5	98.7	98.5	98.2	1.6	6.1	6.4	6.3	1.5	50	98.30	1288	429
225	2096	890	4449	98.3	98.6	98.4	98.1	1.8	6.5	6.6	6.4	1.6	55	98.50	2292	764

Type KT-13 150°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation			X	R	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF	% Imp.						
15	346	165	461	96.2	97.4	97.5	97.3	2.1	3.0	2.5	1.6	2.0	45	97.00	527	176
30	390	190	908	97.2	97.7	97.5	97.1	2.6	4.0	3.3	2.3	2.4	45	97.50	579	193
45	623	235	1328	97.6	97.9	97.6	97.2	2.5	3.2	2.8	1.4	2.4	45	97.70	854	285
75	848	370	2402	97.7	97.9	97.5	97.0	2.8	5.7	4.5	3.6	2.7	50	98.00	1046	348
112.5	1080	455	2991	98.0	98.2	97.9	97.4	2.4	4.3	3.5	2.7	2.3	50	98.20	1180	393
150	1431	600	3686	98.2	98.3	98.1	97.7	2.3	5.1	4.2	3.7	2.1	50	98.30	1250	416
225	2129	830	4250	98.4	98.6	98.4	98.2	2.0	6.3	5.4	5.1	1.5	55	98.50	2771	923

Type KT-13 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			Full Load	% Regulation			X	R	Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%		100% PF	80% PF	% Imp.						
15	341	165	378	96.6	97.8	97.9	97.9	1.5	2.4	2.1	1.6	1.4	45	97.00	472	157
30	444	188	824	97.1	97.8	97.6	97.3	2.2	3.6	3.1	2.2	2.1	45	97.50	620	206
45	598	250	1476	97.4	97.7	97.4	96.9	2.8	4.6	4.0	2.9	2.7	45	97.70	939	313
75	894	350	2128	97.9	98.1	97.9	97.5	1.9	5.1	4.6	4.0	2.4	50	98.00	847	282
112.5	1054	460	2612	98.1	98.3	98.1	97.8	2.0	4.3	3.3	2.6	1.9	50	98.20	1375	458
150	1399	600	3185	98.2	98.5	98.3	98.0	2.0	5.9	5.4	5.1	1.7	50	98.30	1379	460
225	2088	890	4382	98.3	98.6	98.4	98.2	1.8	6.1	5.7	5.5	1.6	55	98.50	2490	830

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Copper Wound

Type KT-13 80°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	370	165	382	96.7	97.8	97.9	97.8	1.5	2.4	2.2	1.6	1.4	45	97.00	472	157
30	490	188	595	97.4	98.2	98.2	98.1	1.4	3.0	2.8	2.5	1.4	45	97.50	592	197
45	635	290	1189	97.4	97.9	97.8	97.5	2.1	3.9	3.5	2.8	2.0	45	97.70	736	245
75	987	410	1351	97.7	98.9	98.4	98.3	1.4	2.8	2.6	2.3	1.3	50	98.00	1590	530
112.5	854	560	2039	98.1	98.6	98.5	98.3	1.4	4.2	4.3	4.1	1.3	50	98.20	1374	458
150	1807	650	3053	98.0	98.4	98.3	98.0	1.7	4.3	4.0	3.7	1.6	50	98.30	1472	490
225	4091	1200	2364	98.2	98.9	99.1	99.1	0.6	2.7	2.9	2.8	0.5	55	98.50	4321	1440

Type KT-13 115°C Rise E3 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	3.25	78	359	97.6	98.1	98.0	97.7	2.0	3.7	3.2	2.6	1.9	45	98.00	307	102
30	370	125	636	98.1	98.4	98.3	98.0	1.7	2.7	2.3	1.6	1.7	45	98.30	779	260
45	635	135	1076	98.5	98.5	98.1	97.7	2.2	4.1	3.5	2.8	2.1	45	98.50	617	206
75	870	225	1529	98.5	98.6	98.4	98.0	1.9	4.9	4.4	4.1	1.7	50	98.60	993	331
112.5	1526	350	1768	98.6	98.8	98.7	98.5	1.3	3.5	3.1	2.8	1.3	50	98.80	2447	816
150	1665	350	2419	97.8	98.9	98.7	98.4	1.5	4.5	4.2	3.9	1.4	50	98.90	1976	659
225	2094	650	3650	98.9	98.9	98.8	98.5	1.5	5.4	5.2	5.1	1.3	55	99.00	2686	895
300	3900	750	3731	98.9	99.1	99.0	98.8	1.3	5.2	5.2	5.1	1.0	55	99.04	2990	997

Type KT-9 115°C Rise E3 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	335	78	353	97.4	98.0	98.0	97.7	2.0	3.7	3.2	2.6	1.8	45	98.00	287	96
30	406	125	670	98.0	98.3	98.1	97.8	1.9	2.7	2.4	1.5	1.8	45	98.30	780	260
45	635	135	1075	98.6	98.5	98.2	97.7	2.3	4.1	3.5	2.8	2.1	45	98.50	603	201
75	870	210	1551	98.5	98.6	98.3	98.0	1.9	4.0	3.6	3.1	1.8	50	98.60	958	319
112.5	1526	350	1583	98.6	98.9	98.8	98.6	1.2	3.0	2.7	2.5	1.1	50	98.80	2480	827
150	1665	350	2463	98.8	98.9	98.7	98.4	1.6	4.5	4.2	4.0	1.4	50	98.90	1930	643
225	2094	650	3766	98.8	98.9	98.7	98.4	1.7	5.5	5.2	5.0	1.4	55	99.00	2778	926

Typical Data for 600-Volt Class General-Purpose Dry-Type Transformers, Copper Wound

2

Type NON HMT 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	362	80	527	97.6	97.7	97.3	96.7	3.2	5.9	5.1	4.2	3.0	45	97.00	—	—
30	430	100	1040	98.3	98.0	97.4	96.7	3.2	6.2	5.4	4.4	3.1	45	97.50	—	—
45	627	170	1368	98.3	98.2	97.7	97.2	2.8	6.0	5.2	4.4	2.7	45	97.70	—	—
75	926	250	2096	98.4	98.3	97.9	97.4	2.6	7.0	6.2	5.7	2.5	50	98.00	—	—
112.5	1628	400	2515	98.4	98.5	98.3	97.9	2.0	5.5	4.9	4.5	1.9	50	98.20	—	—
150	2001	500	2688	98.5	98.7	98.6	98.3	1.6	5.6	5.2	5.0	1.5	50	98.30	—	—
225	3596	590	3310	98.8	98.9	98.8	98.6	1.5	6.2	6.0	5.9	1.2	55	98.50	—	—
300	3891	800	4854	98.7	98.9	98.7	98.4	1.7	7.1	7.0	6.8	1.4	55	98.60	—	—

Type THR HMT 115°C Rise NEMA TP-1 Efficient

kVA	Weight	Losses in Watts		Efficiency (Trise +20°)			% Regulation						Sound Level dB	TP1 Efficiency	Inrush Absolute Max.	Practical Max.
		No Load	Total at Rise +20	25%	50%	75%	Full Load	100% PF	80% PF	% Imp.	X	R				
15	—	80	708	97.1	97.0	96.4	95.5	4.3	7.4	6.3	4.7	4.2	45	97.00	—	—
30	450	100	1409	98.0	97.4	96.5	95.6	4.7	8.0	6.8	5.2	4.4	45	97.50	—	—
45	610	170	1374	98.2	98.1	97.7	97.1	2.8	4.8	4.2	3.2	2.7	45	97.70	—	—
75	868	250	2341	98.2	98.1	97.6	97.0	2.9	6.6	5.8	5.0	2.8	50	98.00	—	—
112.5	1643	400	2685	98.3	98.4	98.1	97.7	2.2	5.5	5.0	4.6	2.0	50	98.20	—	—
150	—	500	3304	98.5	98.6	98.3	97.9	2.0	6.7	6.3	6.0	1.9	50	98.30	—	—
225	3370	590	3712	98.7	98.8	98.7	98.4	1.7	6.6	6.4	6.2	1.4	55	98.50	—	—
300	3894	800	4688	98.9	99.0	98.8	98.5	1.7	7.4	7.2	7.1	1.3	55	98.60	—	—

Typical Specifications— General-Purpose (1000 kVA and Below)

General

Furnish and install, single-phase and three-phase general-purpose individually mounted dry-type transformers of the two-winding type, self-cooled, with ratings and voltages as indicated on the drawings. Transformers shall be manufactured by Eaton.

Transformers shall be designed, manufactured and tested in accordance with all the latest applicable ANSI, NEMA and IEEE Standards. All 600-volt class transformers through 1000 kVA shall be UL listed and bear the UL label.

Transformers shall be designed for continuous operation at rated kVA, for operation 24 hours a day, 365 days a year, with normal life expectancy as defined in ANSI C57.96.

Insulation Systems

Transformers shall be insulated as follows:

- **Type EP or EPT:**
0.050 through 75 kVA:
180°C insulation system
- **Type DS-3 or DT-3:**
15 kVA and above: 220°C insulation system

Required performance shall be obtained without exceeding the above indicated temperature rise in a 40°C maximum ambient, with a 30°C average over 24 hours.

All insulation materials shall be flame-retardant and shall not support combustion as defined in ASTM Standard Test Method D635.

Core and Coil Assemblies

Transformer core shall be constructed with high-grade, non-aging, silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Maximum magnetic flux densities shall be substantially below the saturation point. The transformer core volume shall allow efficient transformer operation at 10% above the nominal tap voltage. The core laminations shall be tightly clamped and compressed. Coils shall be wound of electrical-grade [aluminum] [copper] and continuous wound construction. BIL (basic impulse level) for all 600-volt class windings shall be 10 kV.

On encapsulated units rated [75 kVA and below] [15 kVA and below] [9 kVA and below], the core and coil assembly shall be completely encapsulated in a proportioned mixture of resin or epoxy and aggregate to provide a moisture-proof, shock-resistant seal. The core and coil encapsulation system shall minimize the sound level.

On ventilated units rated [15 kVA and above] [30 kVA and above] [112.5 kVA and above], the core and coil assembly shall be installed on vibration-absorbing pads.

Enclosures

The enclosure shall be made of heavy-gauge steel and shall be finished using a continuous process of degreasing, cleaning and phosphatizing, followed by electrostatic deposition of a thermosetting polyester powder coating and subsequent baking. The coating color shall be ANSI 61 and shall be UL recognized for outdoor use. The maximum temperature on top of the enclosure shall not exceed 90°C.

On units rated [75 kVA and below] [15 kVA and below] [9 kVA and below] encapsulated, the enclosure construction shall be totally enclosed, non-ventilated, NEMA 3R, with lifting provisions.

On units rated [15 kVA and above] [30 kVA and above] [112.5 kVA and above], the enclosure construction shall be ventilated, NEMA 2, drip-proof, with lifting provisions. All ventilation openings shall be protected against falling dirt. On outdoor units, provide

suitable weathershields over ventilation openings. **To ensure proper ventilation, locate the unit at least 6 inches (152.4 mm) from the adjacent wall or structure.**

Tests

The following tests shall be performed as standard on all transformers:

1. Ratio tests at the rated voltage connection and at all tap connections.
2. Polarity and phase relation tests on the rated voltage connection.
3. Applied potential tests.
4. Induced potential test.
5. No-load and excitation current at rated voltage on the rated voltage connection.

Sound Levels

Transformer average sound levels shall not exceed the following ANSI and NEMA levels for self-cooled ratings measured in accordance with NEMA ST-20.

Average Sound Levels ^①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

^① Currently being reviewed and revised by NEMA.

Typical Specifications— Dry-Type Transformers for Nonlinear Loads

2

General

Furnish and install, individually mounted dry-type transformers of the two-winding type, self-cooled, with ratings and voltages as indicated on the drawings.

Transformers shall be manufactured by Eaton.

Transformers shall be designed, manufactured and tested in accordance with all the latest applicable ANSI, NEMA and IEEE Standards. All 600-volt class transformers through 500 kVA shall be UL listed as suitable for non-sinusoidal current loads with K factor not to exceed [4] [13] [20].

Insulation Systems

Transformers shall be insulated with a UL recognized 220°C insulation system. Winding temperature rise shall be [80°C] [115°C] [150°C].

Required performance shall be obtained without exceeding the above indicated temperature rise in a 40°C maximum ambient, with a 30°C average.

All insulation materials shall be flame-retardant and shall not support combustion as defined in ASTM Standard Test Method D635.

Core and Coil Assemblies

Transformer core shall be constructed with high-grade, non-aging, silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Maximum magnetic flux densities shall be substantially below the saturation point. The transformer core volume shall allow efficient transformer operation at 10% above the nominal tap voltage. The core laminations shall be tightly clamped and compressed.

Transformer coils shall be wound of electrical-grade [aluminum] [copper] conductor with continuous wound construction. An electrostatic shield consisting of a single turn of aluminum shall be placed between the primary and secondary winding and grounded to the transformer core. BIL (basic impulse level) for all 600-volt class windings shall be 10 kV.

The core and coil assembly shall be installed on vibration-absorbing pads.

The neutral conductor shall be rated to carry 200% of normal phase current.

Enclosures

The enclosure shall be made of heavy gauge steel and shall be finished utilizing a continuous process of degreasing, cleaning and phosphatizing, followed by electrostatic deposition of a polymer polyester powder coating and baking. The coating color shall be ANSI 61 and shall be UL recognized for outdoor use. The maximum temperature on top of the enclosure shall not exceed 90°C.

The enclosure construction shall be ventilated, NEMA 2, drip-proof, with lifting provisions. All ventilation openings shall be protected against falling dirt. On outdoor units, provide suitable weathershields over ventilation openings. **To ensure proper ventilation, locate the unit at least 6 inches (152.4 mm) from the adjacent wall or structure.**

Nonlinear Ratings

The transformers shall be specifically designed to supply circuits with a harmonic profile equal to or less than a K-factor of 4 or 13 as described below without exceeding [80°C] [115°C] [150°C] temperature rise.

Nonlinear Ratings

Harmonic	K-4	K-13
Fundamental	100.0%	100.0%
3rd	34.0%	70.0%
5th	22.0%	42.0%
7th	3.0%	5.0%
9th	1.0%	3.0%
11th	0.7%	3.0%
13th	0.5%	1.0%
15th	0.3%	0.7%
17th	0.3%	0.6%

Tests

The following tests shall be performed as standard on all transformers:

- Ratio tests at the rated voltage connection and at all tap connections.
- Polarity and phase relation tests on the rated voltage connection.
- Applied potential tests.
- Induced potential test.
- No-load and excitation current at rated voltage on the rated voltage connection.

Sound Levels

Transformer average sound levels shall not exceed the following ANSI and NEMA levels for self-cooled ratings measured in accordance with NEMA ST-20.

Average Sound Levels ①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

① Currently being reviewed and revised by NEMA.

Typical Specification— AC Adjustable Frequency Drive Isolation Transformers

General

Furnish and install, single-phase and three-phase general-purpose individually mounted dry-type transformers of the two-winding type, self-cooled, with ratings and voltages for input application as indicated on the drawings. Transformers shall be manufactured by Eaton.

Transformers shall be designed, manufactured and tested in accordance with all the latest applicable ANSI, NEMA and IEEE Standards. All 600-volt class transformers through 550 kVA shall be UL listed and bear the UL label.

Transformers shall be designed for continuous operation at rated kVA, for operation 24 hours a day, 365 days a year, with normal life expectancy as defined in ANSI C57.96.

Insulation Systems

Transformers shall be insulated with a UL recognized 220°C insulation system.

Required performance shall be obtained without exceeding the above indicated temperature rise in a 40°C maximum ambient, with a 30°C average over 24 hours.

All insulation materials shall be flame-retardant and shall not support combustion as defined in ASTM Standard Test Method D635.

Core and Coil Assemblies

Transformer core shall be constructed with high-grade, non-aging, silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Maximum magnetic flux densities shall be substantially below the saturation point. The transformer core volume shall allow efficient transformer operation at 10% above the nominal tap voltage. The core laminations shall be tightly clamped and compressed. Coils shall be wound of electrical-grade [aluminum] [copper] and continuous wound construction. BIL (basic impulse level) for all 600-volt class windings shall be 10 kV.

A temperature sensing device shall be imbedded in the center coil.

The core and coil assembly shall be installed on vibration-absorbing pads.

Enclosures

The enclosure shall be made of heavy-gauge steel and shall be finished using a continuous process of degreasing, cleaning, and phosphatizing, followed by electrostatic deposition of a thermosetting polyester powder coating and subsequent baking. The coating color shall be ANSI 61 and shall be UL recognized for outdoor use. The maximum temperature on top of the enclosure shall not exceed 90°C.

The enclosure construction shall be ventilated, NEMA 2, drip-proof, with lifting provisions. All ventilation openings shall be protected against falling dirt. **To ensure proper ventilation, locate the unit at least 6 inches (152.4 mm) from the adjacent wall or structure. On outdoor units, provide suitable weathershields over ventilation openings.**

Sound Levels

Transformer average sound levels shall not exceed the following ANSI and NEMA levels for self-cooled ratings measured in accordance with NEMA ST-20.

Average Sound Levels ^①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	Ventilated
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

^① Currently being reviewed and revised by NEMA.

The following table lists the recommended kVA size of the drive isolation transformer for a specific horsepower requirement.

Three-Phase

Horsepower AC Motor	kVA Minimum
5	7.5
7.5	11
10	14
15	20
20	27
25	34
30	40
40	51
50	63
60	75
75	93
100	118
125	145
150	175
200	220
250	275
300	330
400	440
500	550
600	660
700	770

Typical Specifications— Mini-Power Centers (3–30 kVA)

2

General

Furnish and install, single-phase and three-phase general-purpose individually mounted mini-power centers of the two-winding type, self-cooled, with ratings and voltages as indicated on the drawings. Mini-power centers shall be manufactured by Eaton.

Units shall be designed, manufactured and tested in accordance with all the latest applicable ANSI, NEMA, IEEE, CSA and UL standards, and shall be UL listed and CSA certified and bear the UL and CSA labels.

Units shall be designed for continuous operation at rated kVA, 24 hours a day, 365 days a year, with normal life expectancy as defined in ANSI C57.96.

Each mini-power center shall include a main primary breaker with an interrupting rating of 14 kA at 277/480 volts; an encapsulated dry-type transformer and a secondary panelboard with main breaker rated 10 kA interrupting rating at 120/240 volts.

1. All interconnecting wiring between the primary breaker and transformer, secondary main breaker and transformer, and distribution section shall be factory installed. Main primary, secondary and feeder breakers shall be enclosed with a padlockable hinged door.
2. The secondary distribution section shall accommodate one-inch, plug-in breakers with 10 kA interrupting capacity.
3. On the all-copper, bolt-on designs, the secondary distribution section shall accommodate bolt-on breakers with 10 kA interrupting capacity.

Insulation System

Transformers shall be insulated with a 180°C insulation system.

Required performance shall be obtained without exceeding the above indicated temperature rise in a 40°C maximum ambient, with a 30°C average over 24 hours.

All insulation materials shall be flame-retardant and shall not support combustion as defined in ASTM Standard Test Method D635.

Core and Coil Assemblies

Transformer core shall be constructed with high-grade, non-aging, silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Maximum magnetic flux densities shall be substantially below the saturation point.

The transformer core volume shall allow efficient transformer operation at 10% above the nominal tap voltage. The core laminations shall be tightly clamped and compressed. Coils shall be wound of electrical-grade aluminum (copper) with continuous wound construction. BIL (basic impulse level) for all 600-volt class windings shall be 10 kV.

The core and coil assembly shall be completely encapsulated in a proportioned mixture of resin or epoxy and aggregate to provide a moisture-proof, shock-resistant seal. The core and coil encapsulation system shall minimize the sound level.

Enclosures

The enclosure shall be made of heavy-gauge steel and shall be finished using a continuous process of degreasing, cleaning, and phosphatizing, followed by electrostatic deposition of a thermosetting polymer polyester powder coating and subsequent baking. The coating color shall be ANSI 61 and shall be UL recognized for outdoor use. Mini-power centers shall be equipped with a wiring compartment suitable for conduit entry and large enough to allow convenient wiring. The maximum temperature on top of the enclosure shall not exceed 90°C. The core of the transformer shall be grounded to the enclosure. The enclosure shall be totally enclosed, non-ventilated, NEMA 3R, with lifting eyes.

Tests

The following tests shall be performed as standard on all transformers:

1. Ratio tests at the rated voltage connection and at all tap connections.
2. Polarity and phase relation tests on the rated voltage connection.
3. Applied potential tests.
4. Induced potential test.
5. No-load and excitation current at rated voltage on the rated voltage connection.

Sound Levels

Transformer average sound levels shall not exceed the following ANSI/NEMA levels for self-cooled ratings measured in accordance with NEMA ST-20.

Average Sound Levels ^①

kVA	NEMA Average Sound Level in dB
0–9	45
10–30	50

Note

^① Currently being reviewed and revised by NEMA.

Typical Specification— NEMA TP-1-2002 Compliant Energy-Efficient Transformers

General

Furnish and install, three-phase energy-efficient dry-type transformers that comply with NEMA Standard TP-1-2002 and U.S. DOE 10 CFR Parts 430 and 431. Transformers shall be of the two-winding type, self-cooled, with ratings (kVA) as indicated on the drawings. Transformer's losses shall conform to NEMA TP-1 requirements. Transformers shall be manufactured by Eaton.

Transformers shall be designed, manufactured and tested in accordance with all the latest applicable ANSI, NEMA and IEEE Standards, and shall be listed by Underwriters Laboratories and bear the UL label.

Transformers shall be designed for continuous operation at rated kVA, for 24 hours a day, 365 days a year, with normal life expectancy as defined in ANSI C57.96.

Insulation System and Temperature Rise

Transformers shall be insulated with a 220°C insulation system. Transformers shall be 150°C rise and shall be capable of carrying a 15% continuous overload without exceeding a 150°C rise. Required performance shall be obtained without exceeding the above rise in a 40°C maximum, 30°C average ambient temperature.

All insulation materials shall be flame-retardant and shall not support combustion as defined in ASTM Standard Test Method D635.

Core and Coil Assemblies

Transformer core shall be constructed with high-grade, non-aging, silicon steel with high magnetic permeability, and low hysteresis and eddy current losses. Maximum magnetic flux densities shall be substantially below the saturation point.

The transformer core volume shall allow efficient transformer operation at 10% above the nominal tap voltage. The core laminations shall be tightly clamped and compressed. Coils shall be wound of electrical grade [aluminum] [copper] and continuous wound construction. BIL (basic impulse level) for all 600-volt class windings shall be 10 kV.

The core and coil assembly shall be installed on vibration-absorbing pads.

Enclosures

The enclosure shall be made of heavy gauge steel and shall be finished utilizing a continuous process of degreasing, cleaning and phosphatizing, followed by electrostatic deposition of a thermosetting polyester powder coating and subsequent baking. The coating color shall be ANSI 61 and shall be UL recognized for outdoor use.

The enclosure construction shall be ventilated, NEMA 2, drip-proof, with lifting provisions. All ventilation openings shall be protected against falling dirt. **To ensure proper ventilation, locate the unit at least 6 inches (152.4 mm) from the adjacent wall or structure.**

All transformers shall be equipped with a wiring compartment suitable for conduit entry and large enough to allow convenient wiring. The maximum temperature on top of the enclosure shall not exceed 90°C.

Tests

The following tests shall be performed as standard on all transformers:

- Ratio tests at the rated voltage connection and at all tap connections.
- Polarity and phase relation tests on the rated voltage connection.
- Applied potential tests.
- Induced potential test.

- No-load and excitation current at rated voltage on the rated voltage connection.

Efficiency

Transformers shall be energy-efficient with minimum efficiencies as set forth per NEMA TP-1-2002 and U.S. DOE 10 CFR Parts 430 and 431 when operated at 35% of full load capacity.

NEMA TP-1-2002 Efficiency Levels

Tables of Energy Efficiency
NEMA Class 1 Efficiency Levels
Dry-Type Distribution Transformers—Low Voltage (600 V and below)

Single-Phase		Three-Phase	
kVA	Efficiency	kVA	Efficiency
15	97.7	15	97.0
25	98.0	30	97.5
37.5	98.2	45	97.7
50	98.3	75	98.0
75	98.5	112.5	98.2
100	98.6	150	98.3
167	98.7	225	98.5
250	98.8	300	98.6
333	98.9	500	98.7
—	—	750	98.8
—	—	1000	98.9

Sound Levels

Transformer average sound levels shall not exceed the following ANSI and NEMA levels for self-cooled ratings.

Average Sound Levels ①

NEMA ST-20 Average Sound Level in dB

kVA	Up to 1.2 kV		Above 1.2 kV
	Ventilated	Encapsulated	
0–9	40	45	45
10–50	45	50	50
51–150	50	55	55
151–300	55	57	58
301–500	60	59	60
501–700	62	61	62
701–1000	64	63	64
1001–1500	65	64	65

Note

① Currently being reviewed and revised by NEMA.

Glossary of Transformer Terms

Air cooled: A transformer that is cooled by the natural circulation of air around, or through, the core and coils.

Ambient noise level: The existing or inherent sound level of the area surrounding the transformer, prior to energizing the transformer. Measured in decibels.

Ambient temperature: The temperature of the air surrounding the transformer into which the heat of the transformer is dissipated.

Ampacity: The current-carrying capacity of an electrical conductor under stated thermal conditions. Expressed in amperes.

Ampere: The practical unit of electric current.

Attenuation: A decrease in signal power or voltage. Unit of measure is dB.

Autotransformer: A transformer in which part of the winding is common to both the primary and the secondary circuits.

Banked: Two or more single-phase transformers wired together to supply a three-phase load. Three single-phase transformers can be “banked” together to support a three-phase load. For example, three 10 kVA single-phase transformers “banked” together will have a 30 kVA three-phase capacity.

BIL: Basic impulse level. The ability of a transformer’s insulation system to withstand high voltage surges. All Eaton 600V-class transformers have a 10 kV BIL rating.

BTU: British thermal unit. In North America, the term “BTU” is used to describe the heat value (energy content) of fuels, and also to describe the power of heating and cooling systems, such as furnaces, stoves, barbecue grills and air conditioners. When used as a unit of power, BTU “per hour” (BTU/h)

is understood, though this is often abbreviated to just “BTU.”

Buck-boost: The name of a standard, single-phase, two-winding transformer application with the low voltage secondary windings connected as an autotransformer for boosting (increasing) or bucking (decreasing) voltages in small amounts. Applications can either be single-phase or three-phase.

CE: Mark to indicate third-party approved or self-certification to specific requirements of the European community.

Celsius (centigrade): Metric temperature measure.

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8$$

Center tap: A tap at the midpoint of a winding. The center tap on three-phase delta-delta transformers is called a lighting tap. It provides 5% of the transformer’s kVA for single-phase loads.

Certified tests: Actual values taken during production tests and certified as applying to a given unit shipped on a specific order. Certified tests are serial number-specific.

Common mode: Electrical noise or voltage fluctuation that occurs between all of the line leads and the common ground, or between ground and line or neutral.

Compensated transformer: A transformer with a turns ratio that provides a higher than nameplate output (secondary) voltage at no load, and nameplate output (secondary) voltage at rated load. It is common for small transformers (2 kVA and less) to be compensated.

Conductor losses: Losses (expressed in watts) in a transformer that are incidental to carrying a load: coil resistance, stray loss due to stray fluxes in the

windings, core clamps, and the like, as well as circulating currents (if any) in parallel windings. Also called load losses.

Continuous rating: The load that a transformer can handle indefinitely without exceeding its specified temperature rise.

Core losses: Losses (expressed in watts) caused by magnetization of the core and its resistance to magnetic flux. Also called no-load losses or excitation losses. Core losses are always present when the transformer is energized.

CSA: Canadian Standards Association. The Canadian equivalent of Underwriters Laboratories (UL).

CSL3: Candidate Standard Level 3 (CSL3) design criteria developed by the U.S. Department of Energy. This term is used when considering the maximum, practical efficiency of a transformer.

cUL: Mark to indicate UL Certification to specific CSA Standards.

Decibel (dB): Unit of measure used to express the magnitude of a change in signal or sound level.

Delta connection: A standard three-phase connection with the ends of each phase winding connected in series to form a closed loop with each phase 120 degrees from the other. Sometimes referred to as three-wire.

Dielectric tests: Tests that consist of the application of a voltage higher than the rated voltage for a specified time for the purpose of determining the adequacy against breakdowns of insulating materials and spacings under normal conditions.

Dry-type transformer: A transformer in which the core and coils are in a gaseous or dry compound insulating

medium. A transformer that is cooled by a medium other than a liquid, normally by the circulation of air.

E3: Eaton’s version of a CSL3 transformer.

Eddy currents: The currents that are induced in the body of a conducting mass by the time variation of magnetic flux or varying magnetic field.

Efficiency: The ratio of the power output from a transformer to the total power input. Typically expressed as a %.

Electrostatic shield: Copper or other conducting sheet placed between primary and secondary windings, and grounded to reduce electrical interference and to provide additional protection from line-to-line or line-to-ground noise. Commonly referred to as “Faraday shield.”

Encapsulated transformer: A transformer with its coils either dipped or cast in an epoxy resin or other encapsulating substance.

Enclosure: A surrounding case or housing used to protect the contained equipment against external conditions and prevent personnel from accidentally contacting live parts.

Environmentally preferable product: A product that has a lesser or reduced negative effect on human health and the environment when compared to competing products that serve the same purpose. This comparison may consider raw materials acquisition, production, manufacturing, packaging, distribution, reuse, operation, maintenance and disposal of the product. This term includes recyclable products, recycled products and reusable products.

EPACT: The Energy Policy Act of 1992 (EPAct) is an important piece of legislation for efficiency because it established minimum efficiency levels for dry-type distribution transformers manufactured or imported after December 2006. EPAct, which was based on NEMA standards, defined a number of terms, including what constitutes an energy-efficient transformer. The DOE issued a rule that defines these transformers and how manufacturers must comply. DOE EPAct rule (PDF): Energy Efficiency Program for Certain Commercial and Industrial Equipment: Test Procedures, Labeling, and the Certification Requirements for Electric Motors. Final Rule. 10-CFR Part 431.

Excitation current: No load current. The current that flows in any winding used to excite the transformer when all other windings are open-circuited. It is usually expressed in percent of the rated current of a winding in which it is measured. Also called magnetizing current.

FCAN: "Full Capacity Above Nominal" taps. Designates the transformer will deliver its rated kVA when connected to a voltage source which is higher than the rated primary voltage.

FCBN: "Full Capacity Below Nominal" taps. Designates the transformer will deliver its rated kVA when connected to a voltage source which is lower than the rated primary voltage.

Frequency: On AC circuits, designates the number of times that polarity alternates from positive to negative and back again per second, such as 60 cycles per second. Typically measured in Hertz (Hz).

Ground: Connecting one side of a circuit to the earth through low resistance or low impedance paths to help prevent transmitting electrical shock to personnel.

Harmonic: A sinusoidal waveform with a frequency that is an integral multiple of the fundamental frequency (60 Hz).

60 H₃ fundamental
120 H₃ 2nd harmonic
180 H₃ 3rd harmonic
240 H₃ 4th harmonic

Harmonic distortion: Nonlinear distortion of a system characterized by the appearance of harmonic (non-sinusoidal) currents in the output, when the input is sinusoidal.

Harmonic distortion, total (THD): The square root of the sum of the squares of all harmonic currents present in a load, excluding the fundamental 60 Hz current. Usually expressed as a percent of the fundamental.

High voltage windings: In a two-winding transformer, the winding intended to have the greater voltage. Usually marked with "H" designations.

HMT: Harmonic Mitigating Transformer (HMT) is better able to handle the harmonic currents present in today's electrical power system. thereby increasing system capacity, reducing distortion throughout a facility, help to minimize downtime and "mysterious" maintenance on equipment, and return the longevity of equipment life through reduced operational energy losses, thereby running cooler.

Hp: Horsepower. The energy required to raise 33,000 pounds a distance of one foot in one minute. 1 hp is equal to 746 watts, or 0.746 kW.

Hi pot: A standard test on dry-type transformers consisting of extra-high potentials (voltages) connected to the windings. Used to check the integrity of insulation materials and clearances.

Hottest-spot temperature: The highest temperature inside the transformer winding. Is greater than the measured average

temperature of the coil conductors, when using the resistance change method.

Hysteresis: The tendency of a magnetic substance to persist in any state of magnetization.

Impedance: The retarding forces of current in an AC circuit; the current-limiting characteristics of a transformer. Symbol = Z

Inductance: In electrical circuits, the opposition to a change in the flow of electrical current. Symbol = L

Inducted potential test: A standard dielectric test of transformer insulation. Verifies the integrity of insulating materials and electrical clearances.

Inrush current: The initial high peak of current that occurs in the first few cycles of energization, which can be 30 to 40 times the rated current.

Insulating transformer: Another term for an isolating transformer.

Insulation: Material with a high electrical resistance.

Insulation materials: Those materials used to insulate the transformer's electrical windings from each other and ground.

Integral TVSS or SPD: Major Standard Change for Surge Protective Devices (formerly known as Transient Voltage Surge Suppressors). The primary safety standard for transient voltage surge suppressors (TVSS) has undergone major revisions in the past three years with mandatory compliance by manufacturers required by September 29, 2009. Even the name of the standard has changed from UL Standard for Safety for Transient Voltage Surge Suppressors, UL 1449 to UL Standard for Safety for Surge Protective Devices, UL 1449. This means that TVSS listed to the UL 1449 2nd Edition standard will no longer be able to be manufactured after

September 29, 2009. All Surge Protective Devices must be designed, tested, manufactured and listed to the UL 1449 3rd Edition standard after this date.

Isolating transformer: A transformer where the input (primary) windings are not connected to the output (secondary) windings (i.e., electrically isolated).

K-factor: A common industry term for the amount of harmonics produced by a given load. The larger the K-factor, the more harmonics that are present. Also used to define a transformer's ability to withstand the additional heating generated by harmonic currents.

kVA: Kilovolt-ampere. Designates the output that a transformer can deliver for a specified time at a rated secondary voltage and rated frequency without exceeding the specified temperature rise. When multiplied by the power factor, will give kilowatts or kW.

1000 VA = 1 kVA

Lamination: Thin sheets of electrical steel used to construct the core of a transformer.

Limiting temperature: The maximum temperature at which a component or material may be operated continuously with no sacrifice in normal life expectancy.

Linear load: A load where the current waveform conforms to that of the applied voltage, or a load where a change in current is directly proportional to a change in applied voltage.

Live part: Any component consisting of an electrically conductive material that can be energized under conditions of normal use.

Load losses: I²R losses in windings. Also see conductor losses.

Low voltage winding: In a two-winding transformer, the winding intended to have the lesser voltage. Usually marked with "X" designations.

Mid-tap: See center tap.

Noise level: The relative intensity of sound, measured in decibels (dB). NEMA Standard ST-20 outlines the maximum allowable noise level for dry-type transformers.

Nonlinear load: A load where the current waveform does not conform to that of the applied voltage, or where a change in current is not proportional to a change in applied voltage.

Non-ventilated transformer: A transformer where the core and coil assembly is mounted inside an enclosure with no openings for ventilation. Also referred to as totally enclosed non-ventilated (TENV).

No load losses: Losses in a transformer that is excited at rated voltage and frequency but that is not supplying a load. No load losses include core losses, dielectric losses and conductor losses in the winding due to the exciting current. Also referred to as excitation losses.

Overload capability: Short-term overload capacity is designed into transformers as required by ANSI. Continuous overload capacity is not deliberately designed into a transformer because the design objective is to be within the allowed winding temperature rise with nameplate loading.

Percent IR (% resistance): Voltage drop due to resistance at rated current in percent of rated voltage.

Percent IX (% reactance): Voltage drop due to reactance at rated current in percent of rated voltage.

Percent IZ (% impedance): Voltage drop due to impedance at rated current in percent of rated voltage.

Phase: Type of AC electrical circuit; usually single-phase two- or three-wire, or three-phase three- or four-wire.

Polarity test: A standard test on transformers to determine instantaneous direction of the voltages in the primary compared to the secondary.

Primary taps: Taps added to the primary (input) winding. See Tap.

Primary voltage: The input circuit voltage.

Power factor: The cosine of the phase angle between a voltage and a current.

Ratio test: A standard test of transformers to determine the ratio of the input (primary) voltage to the output (secondary) voltage.

Reactance: The effect of inductive and capacitive components of a circuit producing other than unity power factor.

Reactor: A single winding device with an air or iron core that produces a specific amount of inductive reactance into a circuit. Normally used to reduce of control current.

Regulation: Usually expressed as the percent change in output voltage when the load goes from full load to no load.

Scott T connection: Connection for three-phase transformers. Instead of using three sets of coils for a three-phase load, the transformer uses only two sets of coils.

Series/multiple winding: A winding consisting of two or more sections that can be connected for series operation or multiple (parallel) operation. Also called series-parallel winding.

Short circuit: A low resistance connection, usually accidental, across part of a circuit, resulting in excessive current flow.

Sound levels: All transformers make some sound mainly due to the vibration generated in its core by alternating flux. All Eaton general-purpose dry-type distribution transformers are designed with sound levels lower than NEMA ST-20 maximum levels.

Star connection: Same as a wye connection.

Step-down transformer: A transformer where the input voltage is greater than the output voltage.

Step-up transformer: A transformer where the input voltage is less than the output voltage.

T-T connection: See Scott T connection.

Tap: A connection brought out of a winding at some point between its extremities, usually to permit changing the voltage or current ratio. Taps are typically used to compensate for above or below rated input voltage, in order to provide the rated output voltage. See FCAN and FCBN.

Temperature class: The maximum temperature that the insulation system of a transformer can continuously withstand. The common insulation classes are 105, 150, 180 (also 185) and 220.

Temperature rise: The increase over ambient temperature of the windings due to energizing and loading the transformer.

Total losses: The sum of the no-load losses and load losses.

Totally enclosed non-ventilated enclosure: The core and coil assembly is installed inside an enclosure that has no ventilation to cool the transformer. The transformer relies on heat to radiate from the enclosure for cooling.

Transformer tests:

Per NEMA ST-20, routine transformer production tests are performed on each transformer prior to shipment. These tests are: *Ratio tests* on the rated voltage connection; *Polarity and Phase Relation tests* on the rated connection; *No-Load and Excitation Current tests* at rated voltage on the rated voltage connection and *Applied Potential and Induced Potential tests*. Special tests include sound level testing.

Transverse mode: Electrical noise or voltage disturbance that occurs between phase and neutral, or from spurious signals across metallic hot line and the neutral conductor.

Turns ratio: The ratio of the number of turns in the high voltage winding to that in the low voltage winding.

Typical test data: Tests that were performed on similar units that were previously manufactured and tested.

UL (Underwriters Laboratories): An independent safety testing organization.

Universal taps: A combination of six primary voltage taps consisting of 2 at +2-1/2% FCAN and 4 at -2-1/2% FCBN.

Watt: A unit of electrical power when the current in a circuit is one ampere and the voltage is one volt.

Wye connection: A standard three-wire transformer connection with similar ends of single-phase coils connected together. The common point forms the electrical neutral point and may be grounded. Also referred to as three-phase four-wire. To obtain the line-to-neutral voltage, divide the line voltage by $\sqrt{3}$ (1.732).

Frequently Asked Questions About Transformers

Can 60 Hz transformers be used at other frequencies?

Transformers rated for 60 Hz can be applied to circuits with a higher frequency, as long as the nameplate voltages are not exceeded. The higher the frequency that you apply to a 60 Hz transformer, the less voltage regulation you will have. 60 Hz transformers may be used at lower frequencies but only at reduced voltages corresponding to the reduction in frequency. For example, a 480 to 120 volt 60 Hz transformer can carry rated kVA at 50 Hz but ONLY when applied as a 400 to 100 volt transformer (50/60 x 480 = 400).

Can single-phase transformers be used on a three-phase source?

Yes. Any single-phase transformer can be used on a three-phase source by connecting the primary terminals of the single-phase transformer to any two wires of a three-phase system. It does not matter whether the three-phase source is three-phase three-wire or three-phase four-wire. The output of the transformer will be single-phase.

Can transformers be used to create three-phase power from a single-phase system?

No. Single-phase transformers alone cannot be used to create the phase-shifts required for a three-phase system. Phase shifting devices (reactors or capacitors) or phase converters in conjunction with transformers are required to change single-phase power to three-phase.

What considerations need to be taken into account when operating transformers at high altitudes?

At altitudes greater than 3300 feet (1000 meters), the density of the air is less than at lower elevations. This reduces the ability of the air surrounding a transformer to cool it, so the temperature

rise of the transformer is increased. Therefore, when a transformer is being installed at altitudes greater than 3300 feet above sea level, it is necessary to derate the nameplate kVA by 0.3% for each 330 feet (100 meters) in excess of 3300 feet (1000 meters).

What considerations need to be taken into account when operating transformers where the ambient temperature is high?

Eaton's dry-type transformers are designed in accordance with ANSI standards to operate in areas where the average maximum ambient temperature is 40°C. For operation in ambient temperatures above 40°C, there are two options:

1. Order a custom designed transformer made for the specific application.
2. Derate the nameplate kVA of a standard transformer by 8% for each 10°C of ambient above 40°C.

What is the normal life expectancy of a transformer?

When a transformer is operated under ANSI/IEEE basic loading conditions ANSI C57.96), its normal life expectancy is 20 years. The ANSI/IEEE basic loading conditions are:

- A. The transformer is continuously loaded at rated kVA and rated voltages.
- B. The average temperature of the ambient air during any 24-hour period is equal to 30°C and at no time exceeds 40°C.
- C. The altitude where the transformer is installed does not exceed 3300 feet (1000 meters).

What are insulation classes?

Insulation classes were originally used to distinguish insulating materials operating at different temperatures. In the past, letters were used for the different designations. Recently, insulation system temperatures (°C) have replaced the letters' designations.

Insulation Classes

Previous Designation	Insulation System Rating (°C)
Class A	105
Class B	150
Class F	180
Class H	220
Class R	220

How do you know if the enclosure temperature is too hot?

UL and CSA standards strictly regulate the highest temperature that an enclosure can reach. For ventilated transformers, the temperature of the enclosure should not increase by more than 50°C in a 40°C ambient at full rated current. For encapsulated transformers, the temperature of the enclosure should not increase by more than 65°C in a 25°C ambient at full rated current. This means that it is permissible for the temperature of the enclosure to reach 90°C (194°F). Although this temperature is very warm to the touch, it is within the allowed standards. A thermometer should be used to measure enclosure temperatures, not your hand.

Can transformers be reverse-connected (reverse-fed)?

Yes, with limitations. Eaton single-phase transformers rated 3 kVA and larger can be reverse-connected without any loss of kVA capacity or any adverse effects. Transformers rated 2 kVA and below, because there is a turns ratio compensation on the low voltage winding that adjusts voltage between no load and full load conditions, should not be reverse-fed.

Three-phase transformers with either delta-delta or delta-wye configurations can also be reverse-connected for step-up operation. When reverse-feeding a delta-wye connected transformer, there are two important considerations to take into account: (1) The neutral is not connected, only the three-phase wires of the wye system are connected, and (2) the ground strap between X0 and the enclosure must be removed. Due to high inrush currents that may be created in these applications, it is recommended that you do not reverse-feed transformers rated more than 75 kVA. The preferred solution is to purchase an Eaton step-up transformer designed specifically for your application.

Can transformers be connected in parallel?

Yes, with certain restrictions. For single-phase transformers being connected in parallel, the voltages and impedances of the transformers must be equal (impedances must be within 7.5% of each other). For three-phase transformers, the same restrictions apply as for single-phase transformers, plus the phase shift of the transformers must be the same. For example, a delta-wye-connected transformer (30° phase shift) must be connected in parallel with another delta-wye-connected transformer, not a delta-delta connected-transformer (0° phase shift).

Why is the impedance of a transformer important?

The impedance of a transformer is important because it is used to determine the interrupting rating and trip rating of the circuit protection devices on the load or line side of the transformer. To calculate the maximum short circuit current on the load side of a transformer, use the following formula:

$$\text{Maximum Short Circuit} = \frac{\text{Full Load Current (Amps)}}{\text{Transformer Impedance}}$$

Full Load Current (Amps)
Transformer Impedance

Full load current for single-phase circuits is:

$$\frac{\text{Nameplate Volt-Amps}}{\text{Load (output) Voltage}}$$

and for three-phase circuits, the full load current is:

$$\frac{\text{Nameplate Volts-Amps}}{\text{Load (output) Volts} \times \sqrt{3}}$$

Example: For a standard three-phase, 75 kVA transformer, rated 480 volt delta primary and 208Y/120 volt secondary (catalog number V48M28T75J) and impedance equal to 5.1%, the full load current is:

$$\frac{75,000 \text{ VA}}{208\text{V} \times 1.732} = 208.2\text{A}$$

The maximum short circuit load current is:

$$\frac{208.2\text{A}}{0.051} = 4,082.4\text{A}$$

The circuit breaker or fuse on the secondary side of this transformer would have to have a minimum interrupting capacity of 4083 amperes at 208 volts. NEMA ST-20 (1992).

A similar transformer with lower impedance would require a primary circuit breaker or fuse with a higher interrupting capacity.

What clearances are required around transformers when they are installed?

All dry-type transformers depend upon the circulation of air for cooling; therefore, it is important that the flow of air around a transformer not be impeded. UL 1561 requires that there be no less than 6 inches (152.4 mm) clearance between any side transformer with ventilation openings and any wall or obstruction.

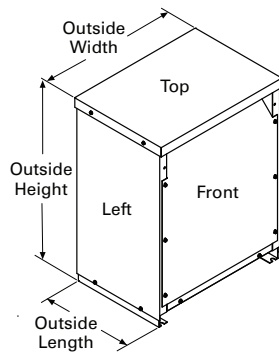
In compliance with NEC 450.9, Eaton's ventilated transformers have a note on their nameplates requiring a minimum of 6 inches (152.4 mm) clearance from the ventilation openings and walls or other obstructions. This clearance only addresses the ventilation needs of the transformer. There may be additional local codes and standards that affect installation clearances.

Transformers should not be mounted in such a manner that one unit will contribute to the additional heating of another unit, beyond allowable temperature limits, for example, where two units are mounted on a wall one above the other.

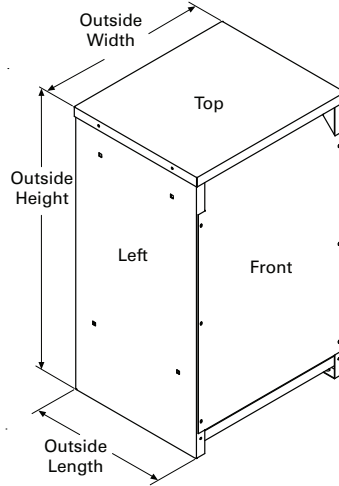
Dimensions

Approximate Dimensions in Inches (mm)

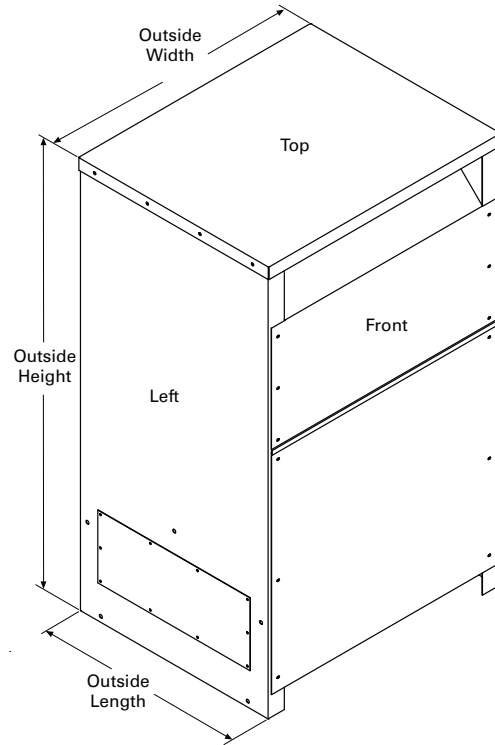
Enclosure Dimensional Drawings—Ventilated Transformers



Drawing 1



Drawing 2



Drawing 3

Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR816	1	31.30 (795.0)	22.89 (581.4)	18.39 (467.2)
FR818	1	37.59 (954.8)	22.89 (581.4)	20.36 (517.1)
FR819	2	42.03 (1067.6)	24.22 (615.2)	23.84 (605.5)
FR820	2	42.03 (1067.6)	24.22 (615.2)	23.84 (605.5)
FR814	2	62.91 (1597.9)	29.97 (761.2)	33.97 (862.8)
FR842	1	33.75 (857.3)	22.45 (570.2)	17.40 (442.0)
FR843	1	38.70 (983.0)	23.51 (597.2)	24.38 (619.3)
FR844	2	44.92 (1141.0)	26.27 (667.3)	27.12 (688.8)
FR821	2	62.91 (1597.9)	29.97 (761.2)	33.97 (862.8)
FR912B	1	30.00 (762.0)	23.00 (584.2)	16.50 (419.1)
FR914D	1	39.00 (990.6)	29.00 (736.6)	22.00 (558.8)
FR915D	1	39.00 (990.6)	29.00 (736.6)	22.00 (558.8)
FR916A	2	48.56 (1233.4)	28.22 (716.8)	23.42 (594.9)
FR917	2	56.17 (1426.7)	31.44 (798.6)	24.67 (626.6)
FR918A	2	62.18 (1579.4)	31.44 (798.6)	30.68 (779.3)
FR923	2	57.54 (1461.5)	36.69 (931.9)	32.65 (829.3)
FR924	2	68.37 (1736.6)	44.46 (1129.3)	36.44 (925.6)
FR928	2	56.16 (1426.5)	32.93 (836.4)	27.97 (710.4)
FR929	2	59.56 (1512.8)	36.72 (932.7)	32.50 (825.5)
FR919	3	75.00 (1905.0)	44.20 (1122.7)	36.23 (920.2)
FR920	3	75.00 (1905.0)	44.20 (1122.7)	36.23 (920.2)
FR922	3	90.00 (2286.0)	69.26 (1759.2)	42.65 (1083.3)

2.7

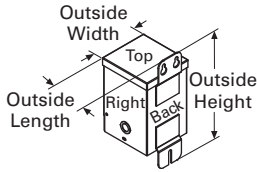
Transformers

Dimensions

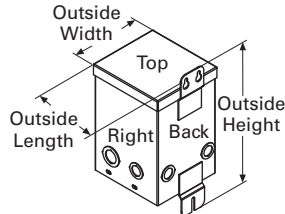
Approximate Dimensions in Inches (mm)

2

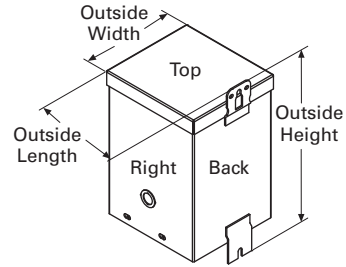
Enclosure Dimensional Drawings—Encapsulated Transformers (Type EP)



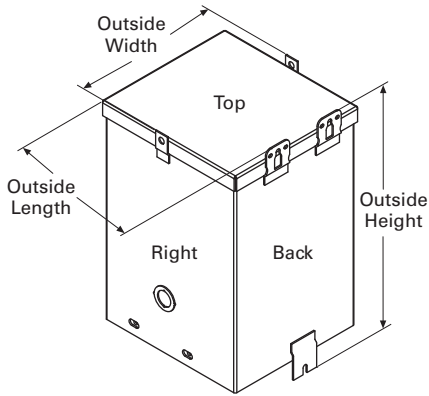
Drawing 6



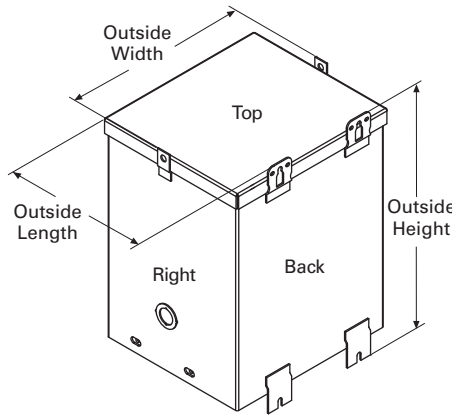
Drawing 7



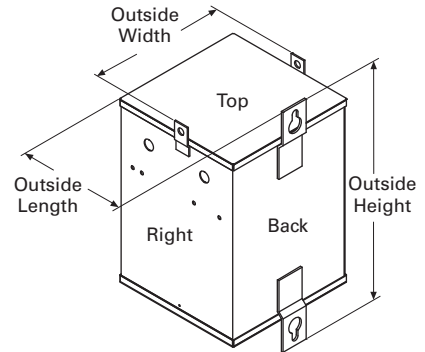
Drawing 8



Drawing 9



Drawing 10

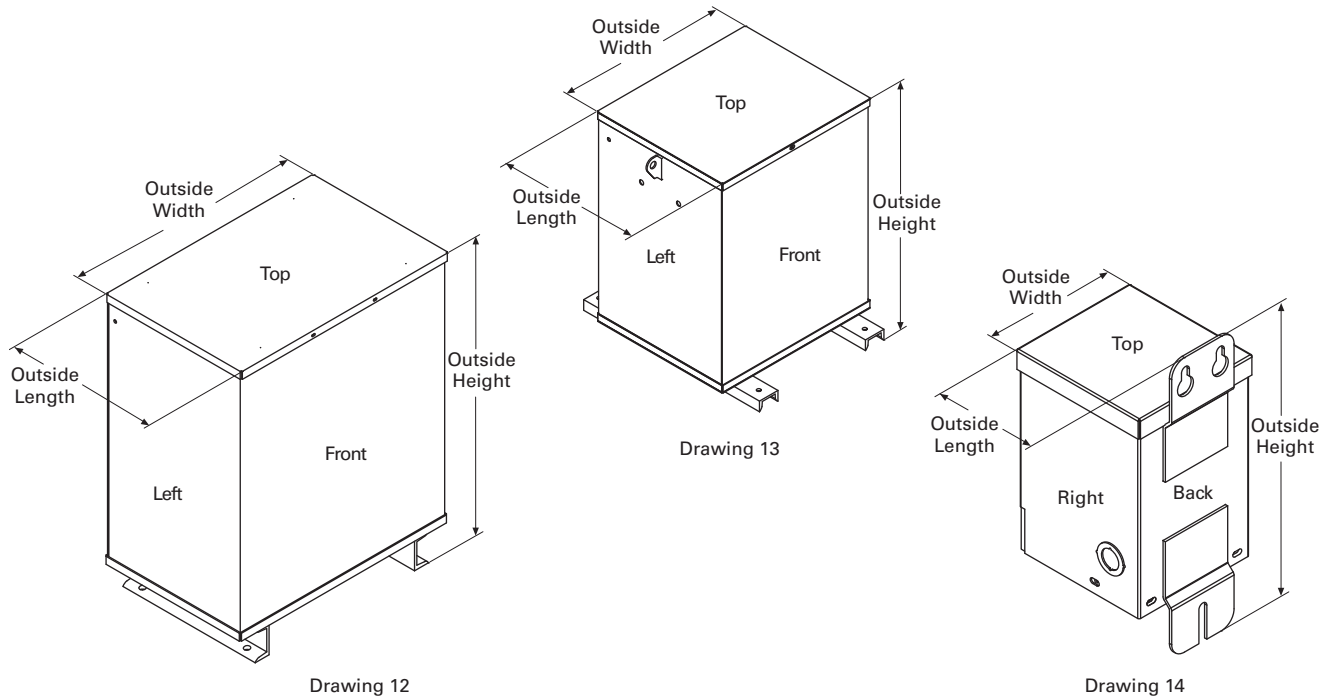


Drawing 11

Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR52	6	8.91 (226.3)	4.11 (104.4)	4.00 (101.6)
FR54	6	8.91 (226.3)	4.11 (104.4)	4.00 (101.6)
FR55	6	8.91 (226.3)	4.11 (104.4)	4.00 (101.6)
FR56	7	8.97 (227.8)	4.87 (123.7)	4.06 (103.1)
FR57	7	8.97 (227.8)	4.87 (123.7)	4.91 (124.7)
FR58A	7	11.28 (286.5)	5.99 (152.1)	5.75 (146.1)
FR59A	7	11.28 (286.5)	5.99 (152.1)	5.75 (146.1)
FR67	7	13.41 (340.6)	6.37 (161.8)	6.52 (165.6)
FR68	7	13.41 (340.6)	6.37 (161.8)	6.52 (165.6)
FR176	8	14.25 (361.9)	7.69 (195.3)	8.00 (203.2)
FR177	9	16.00 (406.4)	10.38 (263.7)	9.89 (251.2)
FR301	11	22.26 (565.4)	12.71 (322.8)	12.79 (324.9)
FR178	9	16.00 (406.4)	10.38 (263.7)	9.89 (251.2)
FR302	11	25.26 (641.6)	12.71 (322.8)	12.79 (324.9)
FR304	11	25.26 (641.6)	14.72 (373.9)	14.82 (376.4)
FR179	9	19.00 (482.6)	13.38 (339.9)	10.52 (267.2)
FR180	9	19.00 (482.6)	13.38 (339.9)	10.52 (267.2)
FR182	10	23.31 (592.1)	16.35 (415.3)	14.12 (358.6)
FR190	10	26.31 (668.3)	16.35 (415.3)	14.12 (358.6)

Approximate Dimensions in Inches (mm)

Enclosure Dimensional Drawings—Encapsulated Transformers Type EP (Single-Phase), continued



Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR132	13	20.67 (525.0)	19.02 (483.1)	13.59 (345.2)
FR300A	12	28.24 (717.3)	22.42 (569.5)	14.06 (357.1)
FR57P	14	9.34 (237.2)	4.45 (113.0)	5.18 (131.6)
FR58AP	14	11.68 (296.7)	4.99 (126.7)	5.99 (152.1)
FR567P	14	13.03 (330.9)	5.74 (145.8)	6.56 (166.6)
FR568P	14	13.78 (350.0)	6.22 (158.0)	6.32 (160.5)

2.7

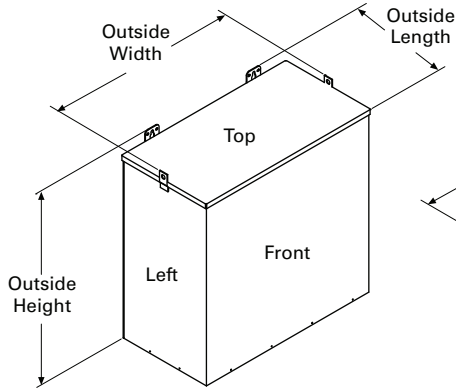
Transformers

Dimensions

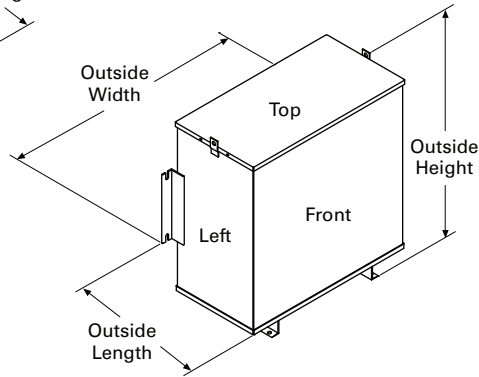
Approximate Dimensions in Inches (mm)

2

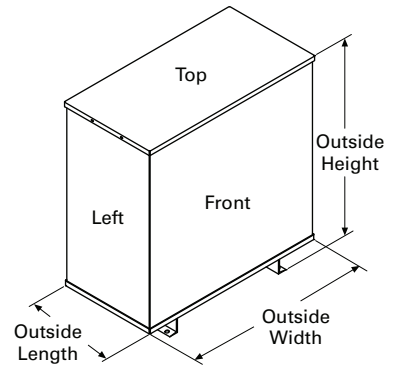
Enclosure Dimensional Drawings—Encapsulated Transformers (Type EPT)



Drawing 15



Drawing 16

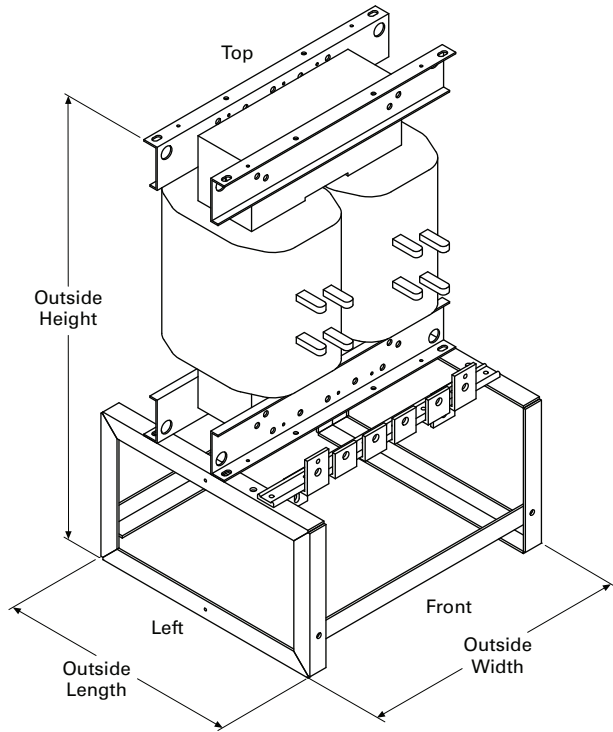


Drawing 17

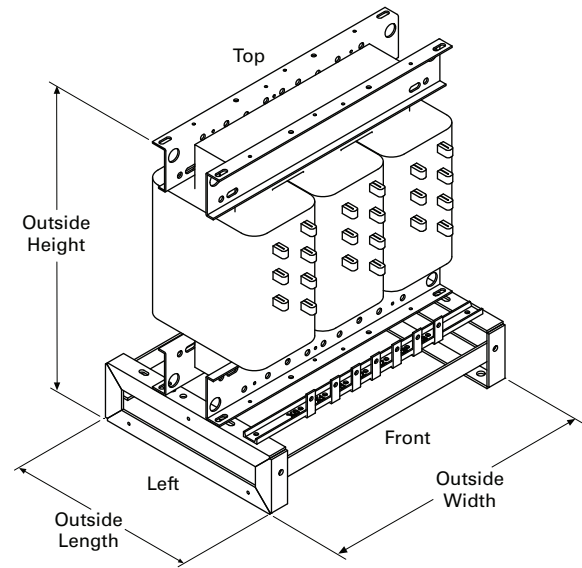
Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR201	15	13.40 (340.4)	15.93 (404.6)	8.26 (209.8)
FR102	15	13.12 (333.2)	19.59 (497.6)	7.09 (180.1)
FR103	15	15.90 (403.9)	16.93 (430.0)	10.01 (254.3)
FR200	15	15.90 (403.9)	16.93 (430.0)	10.01 (254.3)
FR97	15	15.19 (385.8)	25.68 (652.3)	8.38 (212.9)
FR95	15	17.38 (441.5)	20.00 (508.0)	10.52 (267.2)
FR243	16	17.38 (441.5)	20.00 (508.0)	10.52 (267.2)
FR96	15	16.19 (411.2)	29.68 (753.9)	9.42 (239.3)
FR244	16	28.15 (715.0)	26.58 (675.1)	14.66 (372.4)
FR245	17	32.06 (814.3)	30.29 (769.4)	15.68 (398.3)

Approximate Dimensions in Inches (mm)

Enclosure Dimensional Drawings—Core-Coil Transformers



Drawing 4



Drawing 5

Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR817C	4	39.28 (997.7)	21.62 (549.1)	19.51 (495.6)
FR818C	4	39.28 (997.7)	21.62 (549.1)	19.51 (495.6)
FR912C	5	24.75 (628.7)	19.50 (495.3)	14.00 (355.6)
FR914C	5	29.37 (746.0)	25.12 (638.0)	19.00 (482.6)
FR915C	5	31.38 (1067.6)	25.12 (638.0)	19.00 (482.6)
FR9516C	5	41.43 (1052.3)	25.12 (638.0)	20.00 (508.0)
FR916AC	5	43.40 (1102.4)	27.22 (691.4)	22.82 (579.6)

2.7

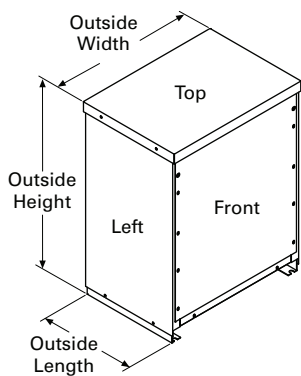
Transformers

Dimensions

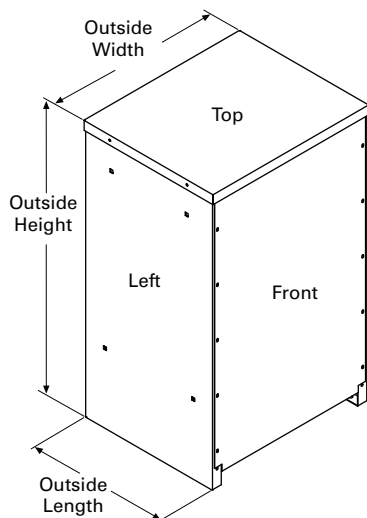
Approximate Dimensions in Inches (mm)

2

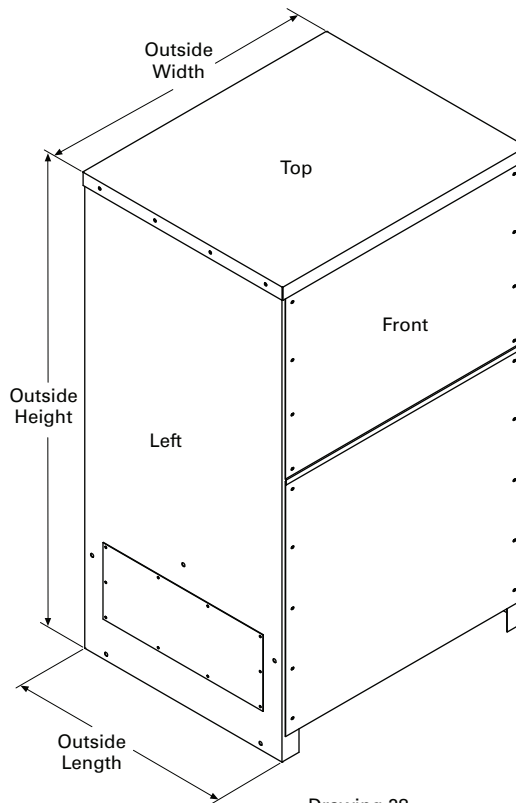
Enclosure Dimensional Drawings—Totally Enclosed Nonventilated Transformers



Drawing 26



Drawing 27

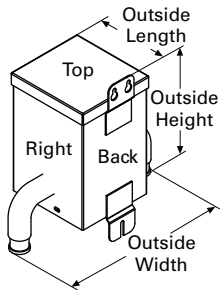


Drawing 28

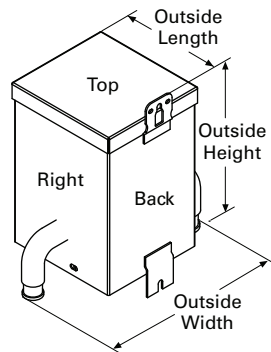
Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR818N	26	37.59 (954.8)	22.89 (581.4)	20.36 (517.1)
FR819N	27	42.03 (1067.6)	24.22 (615.2)	23.84 (605.5)
FR820N	27	42.03 (1067.6)	24.22 (615.2)	23.84 (605.5)
FR814N	27	62.91 (1597.9)	29.97 (761.2)	33.97 (862.8)
FR912BN	26	30.00 (762.0)	23.00 (584.2)	16.50 (419.1)
FR914DN	26	39.18 (995.2)	29.00 (736.6)	22.00 (558.8)
FR915DN	26	39.18 (995.2)	29.00 (736.6)	22.00 (558.8)
FR916AN	27	46.58 (1183.1)	28.22 (716.8)	23.42 (594.9)
FR917N	27	56.18 (1427.0)	31.44 (798.6)	24.67 (626.8)
FR918AN	27	62.18 (1579.4)	31.44 (798.6)	30.68 (779.3)
FR923N	27	57.50 (1460.5)	36.69 (931.9)	32.65 (829.3)
FR919N	28	75.00 (1905.0)	44.21 (1122.9)	36.23 (920.2)
FR920N	28	75.00 (1905.0)	44.21 (1122.9)	36.23 (920.2)

Approximate Dimensions in Inches (mm)

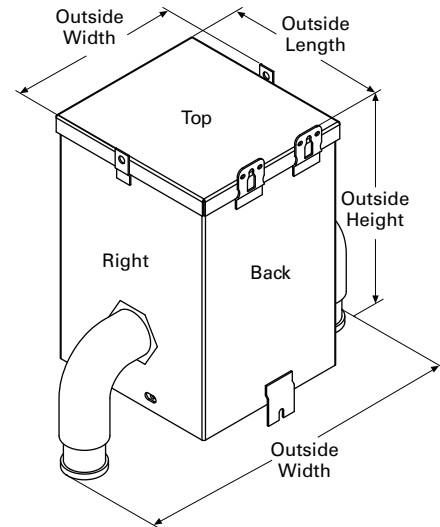
Enclosure Dimensional Drawings—Hazardous Location Transformers (Type EPZ)



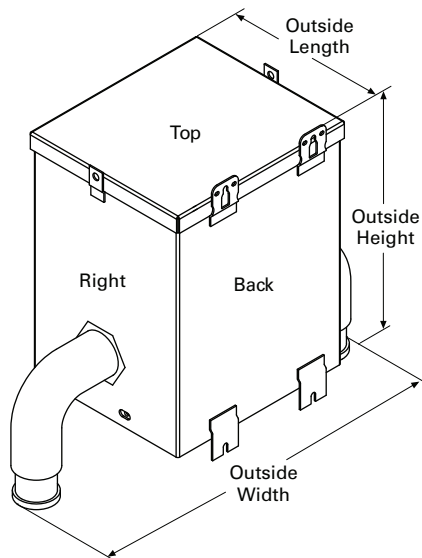
Drawing 21



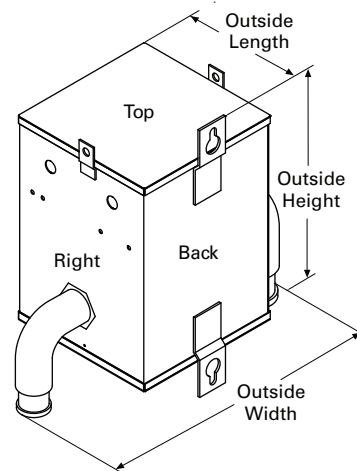
Drawing 22



Drawing 23



Drawing 24



Drawing 25

Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR57H	21	10.11 (256.8)	9.72 (246.9)	4.88 (123.9)
FR58H	22	12.42 (315.5)	10.84 (275.3)	5.75 (146.1)
FR59H	22	12.42 (315.5)	10.84 (275.3)	5.75 (146.1)
FR67H	22	14.56 (369.8)	11.21 (284.7)	6.53 (165.9)
FR68H	22	14.56 (369.8)	11.21 (284.7)	6.53 (165.9)
FR176H	23	14.47 (367.5)	12.50 (317.5)	8.03 (203.9)
FR177H	24	16.53 (419.9)	15.54 (394.7)	9.89 (251.2)
FR178H	24	16.53 (419.9)	15.54 (394.7)	9.89 (251.2)
FR179H	24	19.68 (499.9)	19.63 (498.6)	10.53 (267.5)
FR180H	24	19.68 (499.9)	19.63 (498.6)	10.53 (267.5)
FR182H	25	23.47 (596.1)	22.60 (574.0)	14.10 (358.1)

2.7

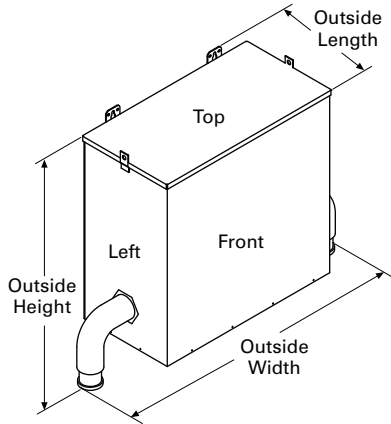
Transformers

Dimensions

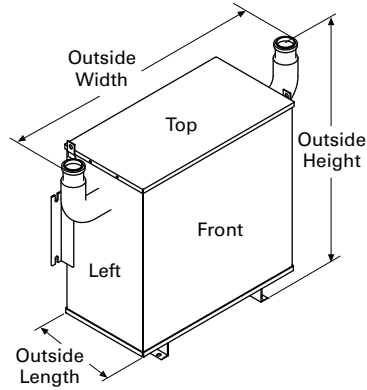
Approximate Dimensions in Inches (mm)

2

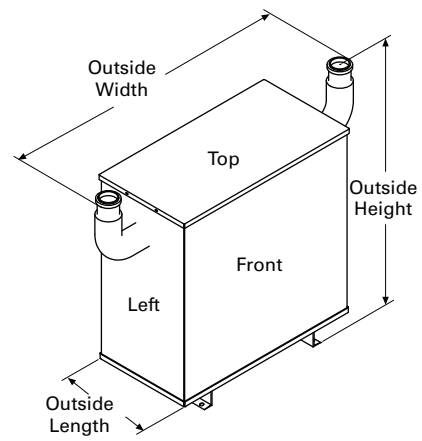
Enclosure Dimensional Drawings—Hazardous Location Transformers (Type EPTZ)



Drawing 18



Drawing 19



Drawing 20

Frame	Drawing Number	Dimensions		
		Height	Width	Length
FR201H	18	13.81 (350.8)	20.38 (517.7)	8.25 (209.5)
FR200H	18	15.94 (404.9)	21.37 (542.8)	10.00 (254.0)
FR103H	18	15.94 (404.9)	21.37 (542.8)	10.00 (254.0)
FR95H	18	17.78 (451.6)	25.18 (639.8)	10.52 (267.2)
FR243H	19	26.58 (675.1)	25.15 (638.8)	12.76 (324.1)
FR244H	19	26.58 (675.1)	25.15 (638.8)	12.76 (324.1)
FR245H	20	31.98 (812.3)	46.23 (1174.2)	15.68 (398.3)