

Reduce cost, footprint and arc-flash hazard



Today's power distribution components are expected to provide reliable performance and reduced footprint without breaking the budget. Eaton's breaker integrated transformer (BIT) meets these needs by integrating a traditionally separate molded case circuit breaker (MCCB) (primary, secondary or both simultaneously) and a low-voltage dry-type distribution transformer package—arriving factory assembled and fully tested to help you reduce the footprint and overall cost of your electrical distribution system.

Features and benefits

Reduced project costs

- Replace the need for separate power distribution components with a fully enclosed MCCB integrated into Eaton's proven low-voltage dry-type distribution transformer technology
- Eliminate the need for extra panels, equipment, floor space and associated installation labor

Minimized footprint

- Take advantage of space savings with an integrated design that can save up to 30% compared to traditional, separately installed solutions
- Reduce installation footprint with 2-inch transformer-to-wall clearance

Simplified installation

- Meet NEC® 410.10A with a factory-installed ground bar
- Large cable entry area and wiring space for ease of installation
- Easy conveyance with 4-inch bottom-to-floor clearance

Enhanced power system flexibility

- Easily configure to specific application needs with a wide range of primary and secondary breaker choices
- Use Eaton's transformer Flex Center to meet special customer needs, including enclosure type, safety requirements, monitoring devices and more
- Reduce hazard of arc flash
- Arcflash Reduction Maintenance System™ compatible on 400 A and above applications

Compare the installation time savings—18% less

The table below shows the time saved by incorporating an Eaton BIT vs. a three-component system that uses a separate breaker, transformer and loadcenter.

Estimates in hours ①

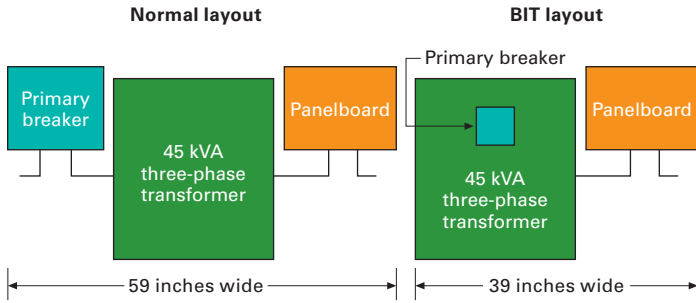
Installation	45 kVA	
	Three-component system	Eaton BIT
Breaker layout	4	0
Breaker and fuse mount	3	0
Transformer layout, remove knockout, etc.	24	24
Loadcenter layout, mount and connect source	6	6
Total hours	37	30
Percent of time saved with Eaton's BIT	18% savings	

① Time estimates are typical and will vary by geographical area.



Powering Business Worldwide

Reduce space (up to 30%) and cost with BIT transformers



Example of BIT with primary breaker shown; other configurations include secondary breakers, primary and secondary breakers, or two secondary breakers.

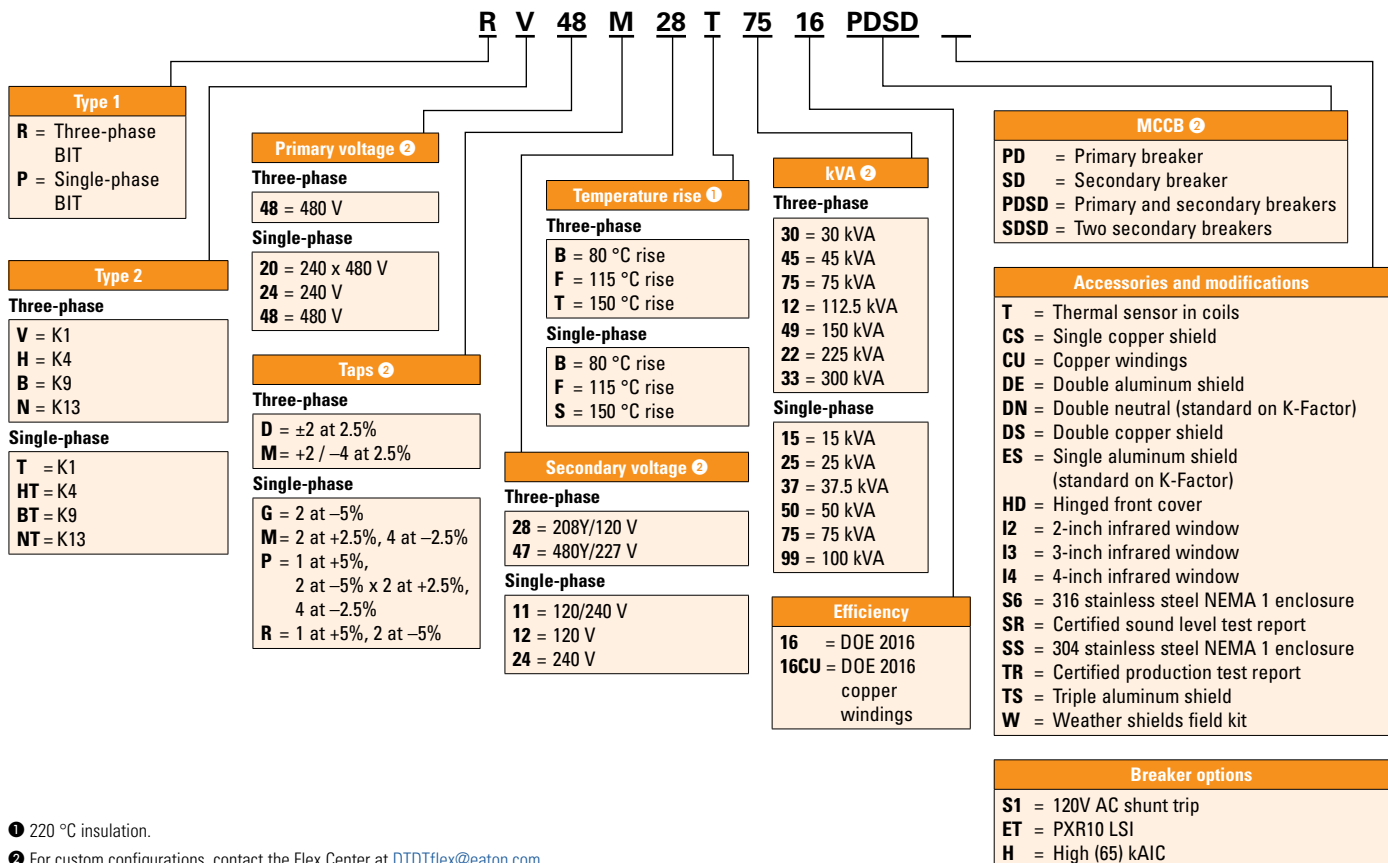
Customized to meet your needs

To help with unique breaker integrated transformer needs that cannot be met with standard offerings, Eaton's transformer Flex Center provides the ability to engineer or modify solutions to solve your most critical application challenges—with full access to our expert team of engineers.

Options include, but are not limited to:

- Tailor-made configurations and dimensions
- Harmonic mitigation transformers
- K-Factor rated transformers
- Custom testing for compliance with industry and regional standards
- NEMA® Type 3R with the addition of weathershields
- Stainless steel (304 or 316) enclosures, NEMA Type 1 or 3R construction
- Infrared windows to ease diagnostics
- Easy-access hinged doors to simplify maintenance and testing
- Custom paint colors
- Custom designs to meet special requirements for efficiency, sound, voltage, kVA ratings, impedance, altitude and temperature rise needs

Voltage, kVA ratings, catalog numbering system



① 220 °C insulation.

② For custom configurations, contact the Flex Center at DDTflex@eaton.com.

Technical specifications

Single-phase—Type DS-3 60 Hz DOE 2016 energy-efficient

kVA	Temperature rise °C	Frame	Wiring diagram	Weight lb (kg)	Circuit breaker		
					Primary	Secondary	Catalog number
480 volts to 120/240 volts primary breaker—aluminum windings							
15	150	FR842ASD	84215BP	131 (59)	PDG22F0040TFFJ	—	PT48M11S1516PD
25	150	FR842ASD	84225BP	199 (90)	PDG22F0060TFFJ	—	PT48M11S2516PD
37.5	150	FR843ASD	84337BP	245 (111)	PDG22F0100TFFJ	—	PT48M11S3716PD
50	150	FR843ASD	84350BP	313 (142)	PDG22F0125TFFJ	—	PT48M11S5016PD
75	150	FR844ASD	84475BP	460 (209)	PDG22F0200TFFJ	—	PT48M11S7516PD
100	150	FR844ASD	84499BP	548 (249)	PDG32F0250TFAJ	—	PT48M11S9916PD
240 x 480 volts to 120/240 volts secondary breaker—aluminum windings							
15	150	FR842ASD	84215CS	131 (59)	—	PDG22F0080TFFJ	PT20P11S1516SD
25	150	FR842ASD	84225CS	199 (90)	—	PDG22F0125TFFJ	PT20P11S2516SD
37.5	150	FR843ASD	84337CS	245 (111)	—	PDG22F0200TFFJ	PT20P11S3716SD
50	150	FR843ASD	84350CS	313 (142)	—	PDG32F0250TFAJ	PT20P11S5016SD
75	150	FR844ASD	84475CS	460 (209)	—	PDG32F0400TFAJ	PT20P11S7516SD
100	150	FR844ASD	84499CS	548 (249)	—	PDG32F0500TFAJ	PT20P11S9916SD
480 volts to 120/240 volts primary breaker—copper windings							
15	150	FR842ASD	84215BP	172 (78)	PDG22F0040TFFJ	—	PT48M11S1516CUPD
25	150	FR842ASD	84225BP	217 (98)	PDG22F0060TFFJ	—	PT48M11S2516CUPD
37.5	150	FR843ASD	84337BP	244 (111)	PDG22F0100TFFJ	—	PT48M11S3716CUPD
50	150	FR843ASD	84350BP	365 (166)	PDG22F0125TFFJ	—	PT48M11S5016CUPD
75	150	FR844ASD	84475BP	576 (261)	PDG22F0200TFFJ	—	PT48M11S7516CUPD
100	150	FR844ASD	84499BP	548 (249)	PDG32F0250TFAJ	—	PT48M11S9916CUPD
240 x 480 volts to 120/240 volts secondary breaker—copper windings							
15	150	FR842ASD	84215CS	172 (78)	—	PDG22F0080TFFJ	PT20P11S1516CUSD
25	150	FR842ASD	84225CS	217 (98)	—	PDG22F0125TFFJ	PT20P11S2516CUSD
37.5	150	FR843ASD	84337CS	244 (111)	—	PDG22F0200TFFJ	PT20P11S3716CUSD
50	150	FR843ASD	84350CS	365 (166)	—	PDG32F0250TFAJ	PT20P11S5016CUSD
75	150	FR844ASD	84475CS	576 (261)	—	PDG32F0400TFAJ	PT20P11S7516CUSD
100	150	FR844ASD	84499CS	548 (249)	—	PDG32F0500TFAJ	PT20P11S9916CUSD

Note: For custom configurations including primary and secondary breakers installed simultaneously, contact the DTD Flex Center at DTDFlex@eaton.com.

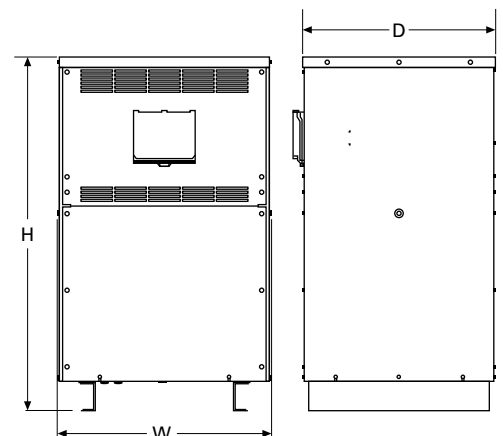
Single-phase breaker information

Circuit breaker	Nominal trip unit (amperes)	kAIC at 480 Vac	Standard lug capacities		
			Per phase		Terminal (aluminum)
			Minimum wire size	Maximum wire size	Lug
PDG22F0040TFFJ	40	25	(1) #14	(1) 1/0	PDG2X2T100
PDG22F0060TFFJ	60	25	(1) #14	(1) 1/0	PDG2X2T100
PDG22F0080TFFJ	80	25	(1) #14	(1) 1/0	PDG2X2T100
PDG22F0100TFFJ	100	25	(1) #14	(1) 1/0	PDG2X2T100
PDG22F0125TFFJ	125	25	(1) #4	(1) 4/0	PDG2X2TA225
PDG22F0150TFFJ	150	25	(1) #4	(1) 4/0	PDG2X2TA225
PDG22F0200TFFJ	200	25	(1) #4	(1) 4/0	PDG2X2TA225
PDG32F0250TFAJ	250	25	(1) 250 kcmil	(1) 500 kcmil	PDG3X2TA350
PDG32F0400TFAJ	400	25	(2) 3/0	(2) 250 kcmil	PDG3X2TA400
PDG32F0500TFAJ	500	25	(2) #2	(2) 500 kcmil	PDG3X2TA630
PDG52K0800E2NN	800	50	N/A	N/A	Not included
PDG52K1200E2NN	1200	50	N/A	N/A	Not included

Single-phase dimensions in inches (mm)

Frame ①	kVA	Height (H)	Width (W)	Depth (D)
842SD	15	43.09 (1094)	23.02 (585)	17.40 (442)
842SD	25	43.09 (1094)	23.02 (585)	17.40 (442)
843SD	37.5	48.16 (1223)	26.97 (685)	24.38 (619)
843SD	50	48.16 (1223)	26.97 (685)	24.38 (619)
844SD	75	68.35 (1736)	37.63 (956)	27.12 (689)
844SD	100	68.35 (1736)	37.63 (956)	27.12 (689)

① Suffix SD changes to DD when either one primary breaker and one secondary breaker, or two secondary breakers are configured.



Three-phase—Type DT-3 60 Hz DOE 2016 energy-efficient

kVA	Temperature rise °C	Frame	Wiring diagram	Weight lb (kg)	Circuit breaker		
					Primary	Secondary	Catalog number
480 delta volts to 208Y/120 volts primary breaker—aluminum windings							
30	150	FR940SD	280BPB	471 (214)	PDG23F0045TFFJ	—	RV48M28T3016PD
45	150	FR940SD	280BPB	471 (214)	PDF23F0100B2NJ	—	RV48M28T4516PD
75	150	FR942SD	280BPB	570 (259)	PDF23F0150B2NJ	—	RV48M28T7516PD
112.5	150	FR943SD	280BPB	1045 (474)	PDF23F0225B2NJ	—	RV48M28T1216PD
150	150	FR943SD	280BPB	1327 (602)	PDF33GH250TFAJ	—	RV48M28T4916PD
225	150	FR944SD	280BPB	1773 (804)	PDF33GH400TFAJ	—	RV48M28T2216PD
300	150	FR945SD	280BPB	2493 (1131)	PDF33G0500TFAJ	—	RV48M28T3316PD
480 delta volts to 208Y/120 volts secondary breaker—aluminum windings							
30	150	FR940SD	280BSB	471 (214)	—	PDG23F0110TFFJ	RV48M28T3016SD
45	150	FR940SD	280BSB	471 (214)	—	PDF23F0150B2NJ	RV48M28T4516SD
75	150	FR942SD	280BSB	570 (259)	—	PDF33GH250TFAJ	RV48M28T7516SD
112.5	150	FR943SD	280BSB	1045 (474)	—	PDF33GH400TFAJ	RV48M28T1216SD
150	150	FR943SD	280BSB	1327 (602)	—	PDF33G0500TFAJ	RV48M28T4916SD
225	150	FR944SD	280BSB	1773 (804)	—	PDF53K0800E2NN	RV48M28T2216SD
300	150	FR945SD	280BSB	2493 (1131)	—	PDF53K1200E2NN	RV48M28T3316SD
480 delta volts to 208Y/120 volts primary breaker—copper windings							
30	150	FR940SD	280BPB	521 (236)	PDG23F00045TFFJ	—	RV48M28T3016CUPD
45	150	FR940SD	280BPB	521 (236)	PDF23F0100B2NJ	—	RV48M28T4516CUPD
75	150	FR942SD	280BPB	676 (307)	PDF23F0150B2NJ	—	RV48M28T7516CUPD
112.5	150	FR943SD	280BPB	1313 (596)	PDF23F0225B2NJ	—	RV48M28T1216CUPD
150	150	FR943SD	280BPB	1466 (665)	PDF33GH250TFAJ	—	RV48M28T4916CUPD
225	150	FR944SD	280BPB	2143 (972)	PDF33GH400TFAJ	—	RV48M28T2216CUPD
300	150	FR945SD	280BPB	2828 (1283)	PDF33G0500TFAJ	—	RV48M28T3316CUPD
480 delta volts to 208Y/120 volts secondary breaker—copper windings							
30	150	FR940SD	280BSB	521 (236)	—	PDG23F0110TFFJ	RV48M28T3016CUSD
45	150	FR940SD	280BSB	521 (236)	—	PDF23F0150B2NJ	RV48M28T4516CUSD
75	150	FR942SD	280BSB	676 (307)	—	PDF33GH250TFAJ	RV48M28T7516CUSD
112.5	150	FR943SD	280BSB	1313 (596)	—	PDF33GH400TFAJ	RV48M28T1216CUSD
150	150	FR943SD	280BSB	1466 (665)	—	PDF33G0500TFAJ	RV48M28T4916CUSD
225	150	FR944SD	280BSB	2143 (972)	—	PDF53K0800E2NN	RV48M28T2216CUSD
300	150	FR945SD	280BSB	2828 (1283)	—	PDF53K1200E2NN	RV48M28T3316CUSD

Note: For custom configurations including primary and secondary breakers installed simultaneously, contact the DTD Flex Center at DTDTflex@eaton.com.

Three-phase breaker information

Circuit breaker	Nominal trip unit (amperes)	kAIC at 480 Vac	Standard lug capacities		Terminal (aluminum) Lug
			Per phase		
			Minimum wire size	Maximum wire size	
PDG23F0045TFFJ	45	25	(1) #14	(1) 1/0	PDG2X3T100
PDG23F0110TFFJ	110	25	(1) #4	(1) 4/0	PDG2X3TA225
PDF23F0100B2NJ	100	25	(1) #4	(1) 4/0	PDG2X3TA225
PDF23F0150B2NJ	150	25	(1) #4	(1) 4/0	PDG2X3TA225
PDF23F0225B2NJ	225	25	(1) #6	(1) 300 kcmil	PDG2X3TA225K
PDF33GH250TFAJ	250	35	(1) 500 kcmil	(1) 750 kcmil	PDG3X3TA401H
PDF33GH400TFAJ	400	35	(1) 500 kcmil	(1) 750 kcmil	PDG3X3TA401H
PDF33G0500TFAJ	500	35	(2) #2	(2) 500 kcmil	PDG3X3TA630
PDF53K0800E2NN	800	50	N/A	N/A	Not included
PDF53K1200E2NN	1200	50	N/A	N/A	Not included

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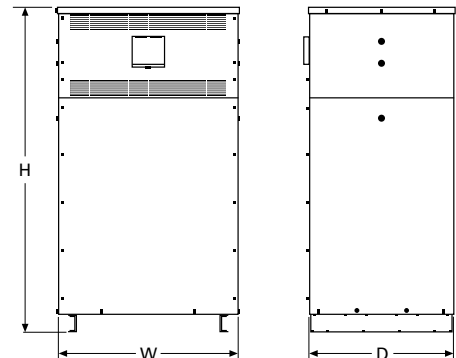
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Three-phase, 150 °C and 115 °C rise only dimensions in inches (mm)

Frame ①	kVA	Height (H)	Width (W)	Depth (D)
940SD	30	45.37 (1152)	24.88 (632)	21.13 (537)
940SD	45	45.37 (1152)	24.88 (632)	21.13 (537)
942SD	75	51.50 (1308)	30.50 (775)	24.00 (610)
943SD	112.5	59.52 (1512)	34.50 (876)	31.50 (800)
943SD	150	59.52 (1512)	34.50 (876)	31.50 (800)
944SD	225	68.54 (1741)	38.00 (965)	33.70 (856)
945SD	300	74.80 (1900)	42.18 (1071)	33.50 (851)

① Suffix SD changes to DD when either one primary breaker and one secondary breaker, or two secondary breakers are configured.



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