

Breaker integrated transformer (BIT)
Customized at the DTDT Flex Center

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Reduce cost, footprint
and arc flash hazard



EATON

Powering Business Worldwide

Today's power distribution components are expected to provide reliable performance and reduced footprint without breaking the budget. Eaton's breaker integrated transformer meets these needs by integrating a traditionally separate molded-case circuit breaker (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 molded-case circuit breaker (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 percent compared to traditional, separately installed solutions
- Reduce installation footprint with 2-inch transformer-to-wall clearance

SIMPLIFIED INSTALLATION

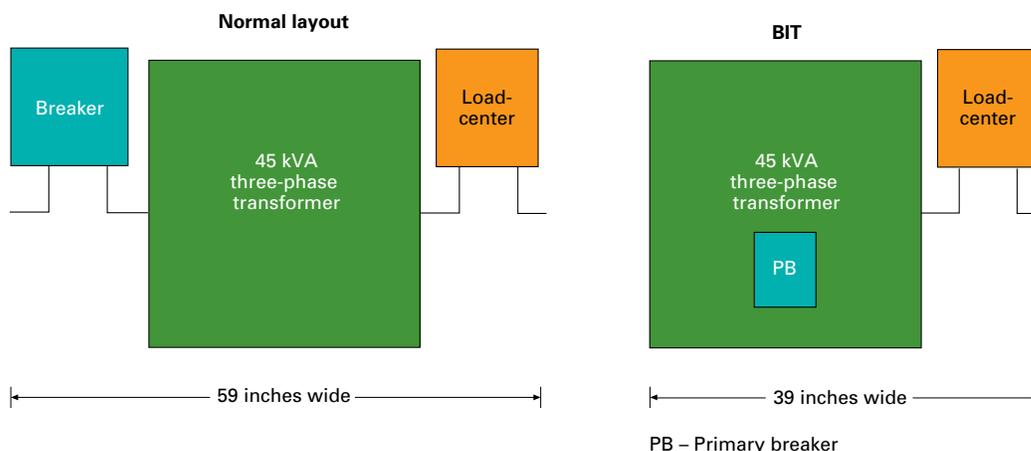
- Meet NEC® 410.10A with a factory-installed ground bar
- Large cable entry area and wiring space for ease of installation
- Easy conveyance with 4-inch bottom-to-floor clearance

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 space savings—39 instead of 59 inches

Have your architects, design engineers, and buyers insert the Eaton BIT catalog number in the specification to take advantage of the space and cost savings.



Compare the installation time savings—18 percent 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	Breaker integrated transformer
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 breaker integrated transformer	18% savings	

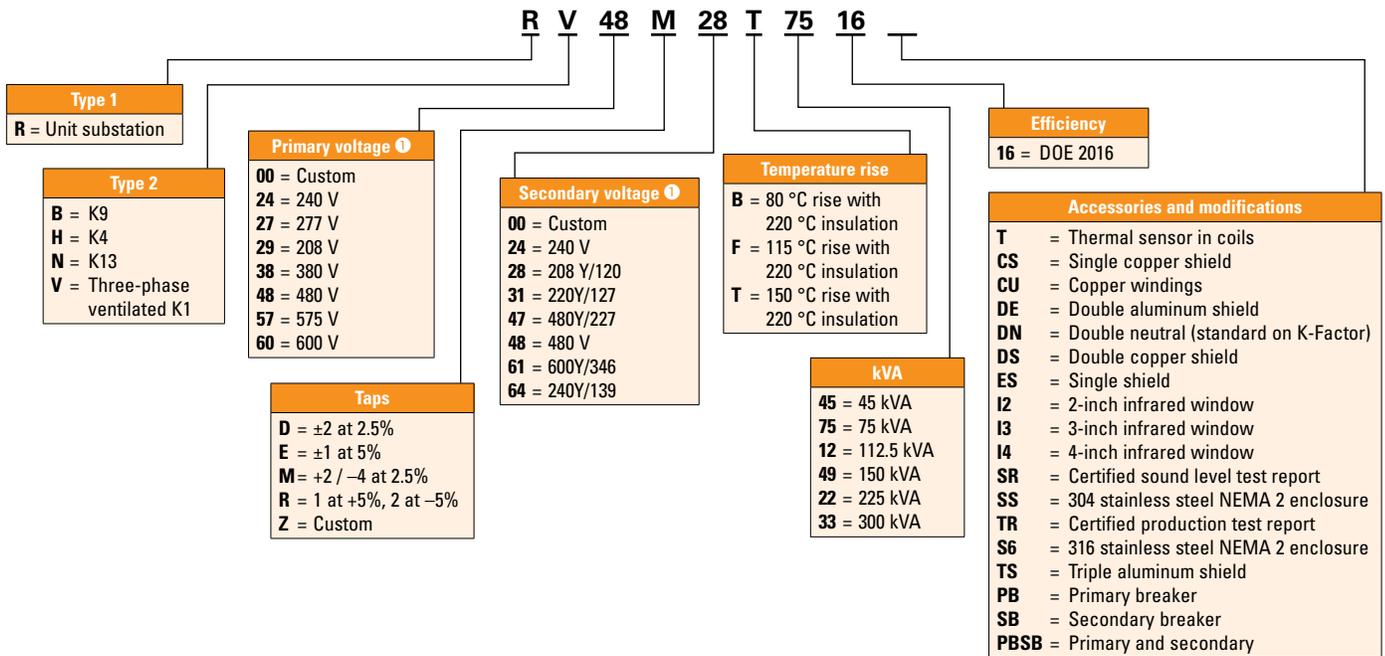
① Time estimates are typical and will vary by geographical area.

Customized to meet your needs

To help meet 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 enclosures (NEMA Type 1 or 3R) 304 or 316
- 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, impedance, altitude and temperature rise needs.

Catalog numbering system

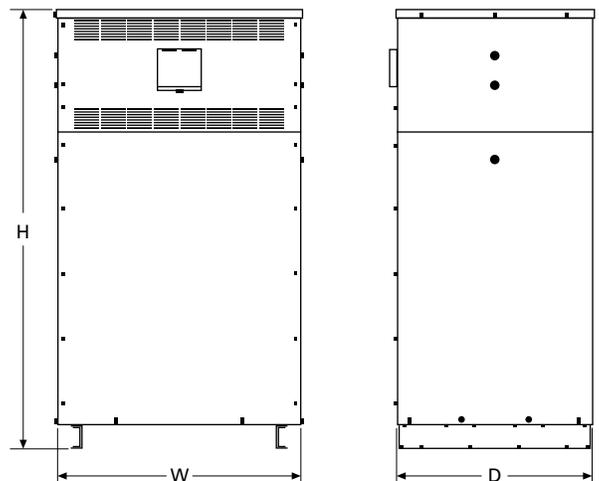


① The most common voltages are listed. Contact Eaton for additional voltage combinations.

Technical specifications

Dimensions in inches (mm)

Frame	kVA	Width (W)	Depth (D)	Height (H)
940SD	45	24.88 (632)	21.13 (537)	36.88 (937)
942SD	75	30.50 (775)	24.00 (610)	43.00 (1092)
943SD	112.5	34.50 (876)	31.50 (800)	51.00 (1295)
943SD	150	34.50 (876)	31.50 (800)	51.00 (1295)
944SD	225	38.00 (965)	33.50 (851)	60.00 (1524)
945SD	300	42.18 (1071)	33.50 (851)	66.18 (1681)



Technical specifications

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							
45	150	FR940SD	280BPB	471 (214)	JGE3160FAGC	—	RV48M28T4516PB
75	150	FR942SD	280BPB	570 (259)	JGE3250FAGC	—	RV48M28T7516PB
112.5	150	FR943SD	280BPB	1045 (474)	LGE3400FAGC	—	RV48M28T1216PB
150	150	FR943SD	280BPB	1327 (602)	LGE3500FAGC	—	RV48M28T4916PB
225	150	FR944SD	280BPB	1773 (804)	NGS3080KSEC	—	RV48M28T2216PB
300	150	FR945SD	280BPB	2493 (1131)	NGS3120KSEC	—	RV48M28T3316PB
480 delta volts to 208Y/120 volts secondary breaker—aluminum windings							
45	150	FR940SD	280BSB	471 (214)	—	JGE3160FAGC	RV48M28T4516SB
75	150	FR942SD	280BSB	570 (259)	—	JGE3250FAGC	RV48M28T7516SB
112.5	150	FR943SD	280BSB	1045 (474)	—	LGE3400FAGC	RV48M28T1216SB
150	150	FR943SD	280BSB	1327 (602)	—	LGE3500FAGC	RV48M28T4916SB
225	150	FR944SD	280BSB	1773 (804)	—	NGS3080KSEC	RV48M28T2216SB
300	150	FR945SD	280BSB	2493 (1131)	—	NGS3120KSEC	RV48M28T3316SB
480 delta volts to 208Y/120 volts primary breaker—copper windings							
45	150	FR940SD	280BPB	521 (236)	JGE3160FAGC	—	RV48M28T4516CUPB
75	150	FR942SD	280BPB	676 (307)	JGE3250FAGC	—	RV48M28T7516CUPB
112.5	150	FR943SD	280BPB	1313 (596)	LGE3400FAGC	—	RV48M28T1216CUPB
150	150	FR943SD	280BPB	1466 (665)	LGE3500FAGC	—	RV48M28T4916CUPB
225	150	FR944SD	280BPB	2143 (972)	NGS3080KSEC	—	RV48M28T2216CUPB
300	150	FR945SD	280BPB	2828 (1283)	NGS3120KSEC	—	RV48M28T3316CUPB
480 delta volts to 208Y/120 volts secondary breaker—copper windings							
45	150	FR940SD	280BSB	521 (236)	—	JGE3160FAGC	RV48M28T4516CUSB
75	150	FR942SD	280BSB	676 (307)	—	JGE3250FAGC	RV48M28T7516CUSB
112.5	150	FR943SD	280BSB	1313 (596)	—	LGE3400FAGC	RV48M28T1216CUSB
150	150	FR943SD	280BSB	1466 (665)	—	LGE3500FAGC	RV48M28T4916CUSB
225	150	FR944SD	280BSB	2143 (972)	—	NGS3080KSEC	RV48M28T2216CUSB
300	150	FR945SD	280BSB	2828 (1283)	—	NGS3120KSEC	RV48M28T3316CUSB

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

Breaker information

Ampere rating	Nominal trip unit (amperes)	kAIC at 480 Vac	Standard lug capacities			
			Per phase		Terminal	
			Min. wire size	Max. wire size	Lug	Terminal material
JGE3160FAGC	160	25	(1) #8	(1) 350 kcmil	TA250FJ	Aluminum
JGE3250FAGC	250	25	(1) #8	(1) 350 kcmil	TA250FJ	Aluminum
LGE3400FAGC	400	35	(2) #2	(2) 500 kcmil	TA632L	Aluminum
LGE3500FAGC	500	35	(2) #2	(2) 500 kcmil	TA632L	Aluminum
NGS3080KSEC	800	50	(3) 3/0	(3) 400 kcmil	TA1000NB1	Aluminum
NGS3120KSEC	1200	50	(4) 4/0	(4) 500 kcmil	TA1200NB1	Aluminum

To learn more about Eaton's breaker integrated transformer, contact your local sales representative or visit Eaton.com/BIT

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