# Three-phase Pad-mounted Transformer





Eaton's vision is to improve quality of life and the environment through the use of power management technologies and services.

- We are dedicated to developing our employees by helping them succeed not just at work, but in life as well.
- We delight our customers by understanding their challenges and proactively delivering real solutions.
- We deliver for our shareholders by doing what's right, so investors want to own more shares in our company.
- We support our communities by providing products and solutions that can improve quality of life and the environment; we also offer our time, talent and resources to satisfy social and economic needs where we work and live.



# **Eaton**

Eaton Corporation is an intelligent power management company dedicated to protecting the environment and improving the quality of human life. Our products serve the data center, utility, industrial, commercial, mechanical manufacturing, residential, aerospace, and vehicle markets. Whether now or in the future, we promise to operate legitimately, sustainably, and help customers better manage their motivation. With the support of global trends in electrification and digitization, we are accelerating the world's transition to renewable energy, helping customers solve the most urgent power management challenges, and creating a more sustainable society for today and future humanity.

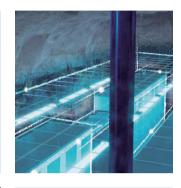
Eaton Corporation was founded in 1911 and has been listed on the New York Stock Exchange for over a century. In 2023, Eaton's sales reached \$23.2 billion and its business covers over 160 countries. Eaton entered the Chinese market in 1993 and has since rapidly developed its business in China. In 2004, the company's Asia Pacific headquarters moved from Hong Kong to Shanghai. In China, Eaton Company currently has approximately 8000 employees and 20 manufacturing bases.



Eaton transformer(Jiangsu)Co.,Ltd.

# We make what matters.\*

**DATA CENTER** 

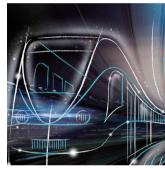


ALTERNATIVE ENERGY





**FACILITIES** 



**INFRASTRUCTURE** 

**INDUSTRY** 



**MACHINERY OEM** 



Providing data centers with efficient and safe energy-saving solutions to protect your information and data.

Providing photovoltaic, wind power, and hybrid solutions to help you convert new energy into daily power.

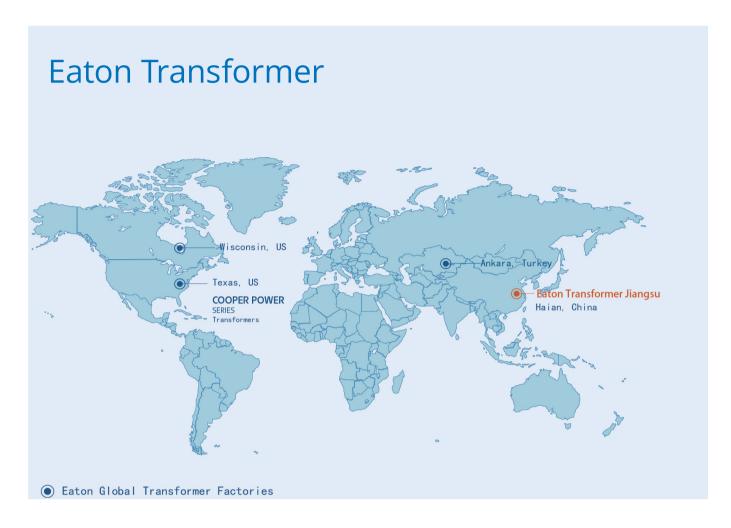
Improving the reliability and uninterrupted running time of smart grids.

Providing continuous, clean, reliable po wer and life cycle management services to improve project efficiency.

Helping enterprises to reduce operating costs and complexity, enhancing the predictability of operational failures, and ensuring personnel safety

Assisting production equipment manufacturers in making machinery production management simpler, more reliable, safer, and more energy-efficient.





# In 1892

Eaton transformer technology can be traced back to 1892 in which the first dry type transformer was developed.

# For over a century

Eaton is committed to innovating and iterating transformers.

# In 2012

The acquisition of Cooper makes Eaton one of the world's leading manufacturers of electrical equipment.

# In 2023

Established in 2023

#### Eaton Transformer Jiangsu

Key products: Dry type transformer, Oil immersed transformer, Prefabricated substation, Integrated power conversion and step-up unit.

# Full series of Eaton transformer solutions

- Complying with GB, IEC and UL standards
- Hundred years of technology heritage
- Customized manufacturing capabilities
- Rapid response to customer demand.





# **SUMMARY**

Pad-mounted transformer has outstanding features including reliable compact structure, fast and flexible installation, convenient operation, small size, etc. it can be widely used in industrial areas, residential communities, commercial centres, urban roads, high-rise buildings and other premises. The difference between this kind of product and prefabricated transformer is: Pad-mounted transformer isdesigned with integration of transformer part, high-voltage load switch, protective fuse and other devices, and placed in an oil tank for relatively comparably smaller size. It is suitable for both looped and radial network and can be changed conveniently for an enhanced reliability of power supply.

# Advantage

Compact in structure and small in volume, approximately one-third of the capacity of a European style box transformer and one-fifth of that of a distribution room;

Fully enclosed, fully insulated structure, no need for insulation distance, reliable guarantee of personal safety; Can be cut off Load current, achieving full range current protection;

There are two power supply modes to choose from: ring network and terminal, which have the basic functions of a substation; Adopting dual fuse protection, effectively reducing operating costs;

Easy installation, simple maintenance, and relatively low overall cost;

High protection level and excellent weather resistance.

# **Operation Condition**

- 1. Ambient temperature: highest temperature: +40OC lowest temperature: -30OC
- 2. Altitude above sea level: no more than 1000m
- 3. Wind speed: 34m/s (no more than 700Pa)
- 4. Humidity: daily average of relative humidity no more than 95%
- 5. Monthly average of relative humidity no more than 95%
- 6. Shock resistance: horizontal acceleration no more than 0.4m/s2, vertical acceleration no more than 0.15/s2
- 7. Slope of installation site: no more than 30
- 8. Installation conditions: free of explosive and corrosive gas, no severe vibrationand shock.

## Structure View



The American style box transformer structure is divided into two parts: front and rear; The front is high/Low voltage operation interval, which includes high and low voltage terminals, Load switch, no-load tap changer, plug-in fuse, voltage-Force release valve, oil temperature gauge, oil level gauge, oil injection hole, oil drain valve; afterThe parts include oil injection box and heat dissipation fins, transformer winding and iron core, high voltageThe load switch and protective fuse are all located in the oil filled box. The box is made of Fully sealed structure, using concealed high-strength bolts and oil resistant nitrile rubber, The gasket is used to seal the box cover and can withstand 7 Psig air pressures (pounds per inch <sup>2</sup> Approximately equivalent to 0.5Kg/cm <sup>2</sup> Gauge pressure. The design of the box fully considers waterproofing, safety, and easy operation

The requirement is that the box door is three-point interlocked, only after opening the low-voltage interval Only then can the high-voltage interval be opened. Easy installation, simple maintenance, and relatively low overall cost; High protection level and excellent weather resistance.

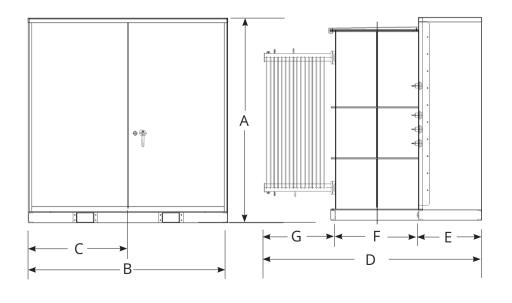


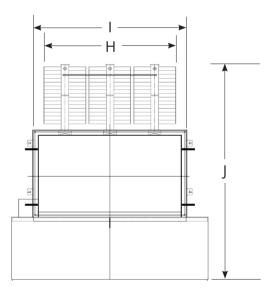
High and low voltage intervals

# Technical parameters

Rated Capacity (kVA)	High Voltage (kV)	High Pressure Tapping	Low Voltage (kV)	Connection Group Symbol	No-load Loss(W)	On-load Loss (W)	No-load Current(%)	Short-circuit Impendance (%)	
30				Dyn11	100	630	2. 1	4	
50					130	910	2		
63					150	1090	1. 9		
80					180	1310	1.8		
100					200	1580	1. 6		
125			0.4		240	1890	1.5		
160					280	2310	1. 4		
200	6 6. 3				340	2730	1.3		
250	6. 6 10	0 ± 2 x 2.5%			400	3200	1. 2		
315	10.5				480	3830	1. 1		
400					570	4520	1		
500					680	5410	1		
630					810	6200	0. 9		
800					980	7500	0.8		
1000					1150	10300	0. 7	4. 5	
1250					1360	12000	0. 6		
1600					1640	14500	0. 5		

# **External Dimensions of Product**





# DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—ALUMINUM WINDINGS

kVA	OUTLINE DIMENSIONS (in.)										Approx. Total Weight (lbs.)
Rating	А	В	С	D	Е	F	G	Н		_or Fluid	weight (lbs.)
30											
50											
63											
80											
100											
125											
160											
200											
250											
315											
400											
500											
630											
800											
1000											
1250											
1600											

# DEAD-FRONT—LOOP OR RADIAL FEED—BAY-O-NET FUSING OIL FILLED—COPPER WINDINGS

kVA Rating			Gallons	Approx. Total Weight (lbs.)							
	Α	В	С	D	Е	F	G	Н	I	of Fluid	Weight (lbs.)
30											
50											
63											
80											
100											
125											
160											
200											
250											
315											
400											
500											
630											
800											
1000											
1250											
1600											

# Standard features

## Connections and neutral configurations

- Delta Wye: Low voltage neutral shall be a fully insulated X0 bushing with removable ground strap.
- Grounded Wye-Wye: High voltage neutral shall be internally tied to the low voltage ne utral and brought out as the H0X0 bushing in the secondary compartment with a removable ground strap.
- Delta-Delta: Transformer shall be provided without a neutral bushing.
- Wye-Wye: High voltage neutral shall be brought out as the H0 bushing in the primary compartment and the low voltage neutral shall be brought as the X0-bushing in the secondarycompartment.
- Wye-Delta: High voltage neutral shall be brought out as the H0 bushing in the primary compartment. No ground strap shall be provided (line to line rated fusing is required).

#### High and low voltage bushings

- 200 A bushing wells (15, 25, and 35 kV)
- 200 A, 35 kV Large Interface
- 600 A (15, 25, and 35 kV) Integral bushings (deadfront)
- Electrical-grade wet-process porcelain bushings (live-front)

## Health• Bolted cover for tank access (45-1750 kVA)

- Welded cover with hand hole (2000-12,000 kVA)
- · Three-point latching door for security
- · Removable sill for easy installation
- Lifting lugs (4)
- Stainless steel cabinet hinges and mounting studs
- Steel divider between HV and LV compartment
- 20" Deep cabinet (45-1000 kVA)
- 24" Deep cabinet (1500-7500 kVA)
- 30" Deep cabinet (34.5/19.92 kV)
- Pentahead captive bolt
- Stainless steel 1-hole ground pads (45-500 kVA)
- Stainless steel 2-hole ground pads (750-10,000 kVA)
- Parking Stands Valves/plugs
- One-inch upper filling plug
- One-inch drain plug (45-500 kVA)
- One-inch combination drain valve with sampling device in low

voltage compartment (750-12,000 kVA)

- Automatic pressure relief valve Nameplate
- Laser-scribed anodized aluminum nameplate

# **Optional features**

### High and low voltage bushings

- 200 A (15, 25 kV) bushing inserts
- 200 A (15, 25 kV) feed thru inserts
- $\bullet$  200 A (15, 25 kV) (HTN) bushing wells with removable studs
- High-voltage 600 A (15, 25, 35 kV) deadbreak onepiece bushings
- Low voltage 6-, 8-holes spade
- Low voltage 12-, 16-, 20-holes spade (750-2500 kVA)
- · Low voltage bushing supports

#### Tank/cabinet features

- Stainless steel tank base and cabinet
- Stainless steel tank base, cabinet sides and sill
- 100% stainless steel unit
- Service entrance (2 inch) in sill or cabinet side
- Touch-up paint (domestic)
- Copper ground bus bar
- Kirk-Key provisions
- Nitrogen blanket
- · Bus duct cutout

# Special designs

- Factory Mutual (FM)
- UL® Classified
- Triplex
- · High altitude
- K-Factors
- Step-up
- Critical application
- Modulation transformers
- Seismic applications (including OSHPD)

#### **Switches**

- · One, two, or three On/Off loadbreak switches
- 4-position loadbreak V-blade switch or T-blade switch
- Delta-wye switch
- 3-position V-Blade selector switch
- 100 A, 150 A, 300 A tap changers
- Dual voltage switch
- Visible break with VFI interrupter interlock
- External visible break (15, 25, and 35 kV, up to 3 MVA)
- $\bullet$  External visible break with gauges (15, 25, and 35 kV, up to 3

#### Overcurrent protection

- Bay-O-Net fusing (Current sensing, dual sensing, dual element, high amperage overload)
- Bay-O-Net expulsion fuse in series with a partial range under-oil ELSP current limiting fuse (below 23 kV)
- Cartridge fusing in series with a partial range under-oil ELSP current limiting fuse (above 23 kV)
- MagneX<sup>™</sup> interrupter with ELSP current-limiting fuse
- Vacuum Fault Interrupter (VFI)
- Visible break window
- · Fuse/switch interlock

#### Valves/plugs

- Drain/sampling valve in high-voltage compartment
- Globe type upper fill valve Overvoltage protection
- Distribution-, intermediate-, or station-class surge arresters
- · Elbow arresters (for dead-front connections)

#### Metering/fan/control

- Full metering package
- Current Transformers (CTs)
- Metering Socket
- NEMA® 4 control box (optional stainless steel)
- NEMA® 7 control box (explosion proof)
- Fan Packages

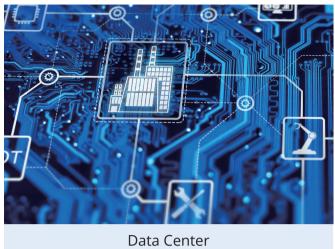
#### **Testing**

- Customer test witness
- Customer final inspection
- Zero Sequence Impedance Test
- Heat Run Test
- ANSI® Impulse Test
- Audible Sound Level Test
- RIV (Corona) Test
- Dissolved Gas Analysis (DGA) Test
- 8- or 24-Hour Leak Test

### Coatings (paint)

- · ANSI® Bell Green
- ANSI® #61 Light Gray
- ANSI® #70 Sky Gray
- Special paint available per requestNameplate
- · Stainless steel nameplateDecals and labels
- · High voltage warning signs
- · Mr. Ouch
- · Bi-lingual warning
- DOE compliant
- · Customer stock code
- · Customer stenciling
- Shock and arc flash warning decal
- Non-PCB decal













Eaton is an intelligent power management company dedicated to improving the quality of life and protecting the environment for people everywhere. We are guided by our commitment to do business right, to operate sustainably and to help our customers manage power - today and well into the future. By capitalizing on the global growth trends of electrification and digitalization, we're accelerating the planet's transition to renewable energy, helping to solve the world's most urgent power management challenges, and doing what's best for our stakeholders and all of society.

Eaton was founded in 1911 and has been listed on the New York Stock Exchange since 1923. We reported revenues of \$20.8 billion in 2022 and serve customers in more than 170 countries. Eaton entered the Chinese market in 1993 and has grown significantly since then. In 2004, Eaton moved its Asia-Pacific headquarters from Hong Kong to Shanghai. Today, Eaton has nearly 9,000 employees and 20 manufacturing facilities in China. Eaton is marking its 100th anniversary of being listed on the New York Stock Exchange, and its 30th anniversary of being in Chinese market.

For more information about Eaton Transformer, visit www. eatontransformer.com
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