Technical Data for Eaton Cast-resin Transformers Unique Technology for Special Applications

Introduction

At Eaton's Cooper Power Systems, we are constantly striving to introduce new innovations to the transformer industry, bringing you the highest quality, most reliable transformers. The flame-retardant, eco-friendly cast-resin transformer range meets all the requirements for a safe, dependable component, designed to comply with even the most stringent of specifications. The Eaton dry-type transformer combines premium quality with minimized environmental impact. Thanks to their oil-free construction, Eaton models make an active contribution towards protecting our climate.

Features of Products

- CEF Test Passed
- Non-Flammable-The insulating materials will not self-ignite and are self-extinguishing.
- Efficient & Quiet-Transformer have low losses and low sound level.
- Environmentally Safe-Units are non-polluting and require little maintenance.
- Dielectric Integrity-Transformers are free of partial discharge and withstand high Basic Impulse Levels.
- High Short-Circuit Strength-Units are resistant to short-circuit forces.
- Hermetically Sealed-Transformers are impervious to humidity and most common industrial contaminants.
- Low Installation Cost-Transformers can be installed close to the load center without costly vaults, dikes, and special ventilation.
- Conserve Valuable Space-Designs are compact and light weight

Powering Business Worldwide

Cooper Power Systems by EATON

Technical Specifications

- Voltage Range: Up to 35kV(including dual voltages)
- Capacity: Up to 20000kVA(AN)
- Taps: ±2x2.5% are standard (other options available)
- Frequency: 50Hz or 60Hz
- Phases: Single or Three-Phase
- Vector Group: Dyn11; Yyn0 or others
- Cooling: AN or AF
- Insulation Class: F or H
- Insulation Level:

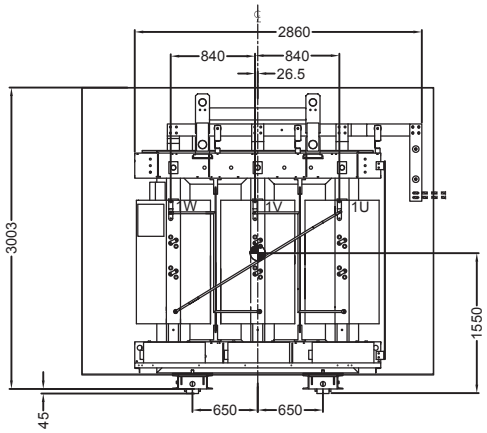
VOLTAGE	6/10kV	20kV	35kV
P.F.test	35kV	50kV	70kV
B.I.L.test	75kV	125kV	170kV

- Protection Enclosure Grade: IP00, IP20, IP23 or as required
- Service Condition: Altitude, not exceeding 1000m. Ambient temperature, not exceeding 40°C
- Standards:

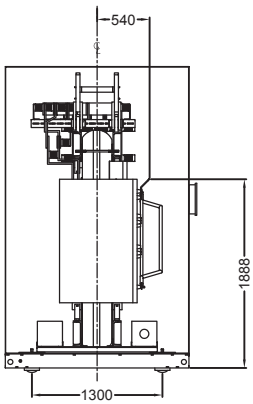
  GB1094《Power Transformers》

  GB6450《Dry Type Power Transformers》

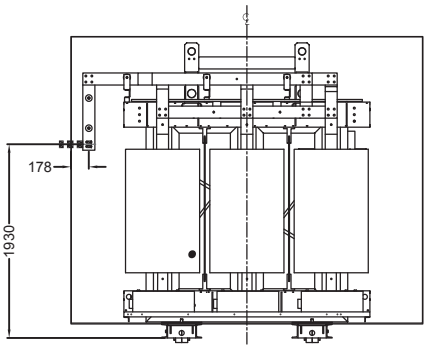
  IEC60076《Power Transformers》
- Other standards such as required.



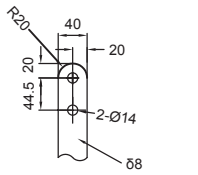
FRONT VIEW (HV SIDE)



LEFT SIDE VIEW

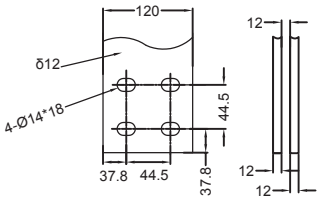


REAR VIEW(LV SIDE)



HV TERMINAL

TIN PLATED COPPER BUS



LV TERMINAL

TIN PLATED COPPER BUS
DOUBLE BUS

Voltage class 10kV, 30 up to 2500 kVA

Model	Voltage Class (kV)	Power [kVA]	Uk [%]	P0 [W]	Pk at 120°C[W]	Lwa [(db(A)]	Length [mm] IP00/IP23	Width [mm] IP00/IP23	Height [mm] IP00/IP23	Total Weight [kg] IP00/IP23	Roller distance [mm]
SC10-30/10		30	4								
SC10-50/10		50	4	240	940	43	1100/1700	760/1250	915/2200	480/1010	550
SC10-63/10		63	4								
SC10-80/10		80	4	300	1260	43	1200/1700	760/1250	1165/2200	680/1210	550
SCB10-100/10		100	4	330	1510	43	1200/1700	760/1250	1200/2200	750/1280	550
SCB10-125/10	11	125	4	400	1720	43	1200/1700	760/1250	1150/2200	790/1320	550
SCB10-160/10	10.5	160	4	480	2010	43	1300/1700	760/1250	1238/2200	940/1470	660
SCB10-200/10	10	200	4	550	2520	43	1300/1700	760/1250	1172/2200	1000/1530	660
SCB10-250/10	6.3	250	4	630	2750	43	1350/1700	760/1250	1268/2200	1170/1700	660
SCB10-315/10	6	315	4	750	3460	44	1350/1700	760/1250	1211/2200	1410/1940	660
SCB10-400/10		400	4	840	3990	44	1350/1700	760/1250	1226/2200	1500/2030	660
SCB10-500/10		500	4	1000	4880	44	1350/1700	760/1250	1441/2200	1740/2270	660
SCB10-630/10		630	4	1050	5860	44	1450/2000	760/1400	1388/2200	2100/2700	660
SCB10-630/10		630	6	1000	5950	44	1450/2000	760/1400	1391/2200	1950/2550	660
SCB10-800/10		800	6	1270	6940	45	1600/2000	820/1400	1489/2200	2380/2980	820
SCB10-1000/10		1000	6	1400	8120	45	1600/2000	820/1400	1586/2200	2850/3450	820
SCB10-1250/10		1250	6	1770	9690	45	1600/2000	820/1400	1661/2200	3300/3900	820
SCB10-1600/10		1600	6	2130	11720	48	1700/2000	820/1400	1785/2200	4050/4650	820
SCB10-2000/10		2000	6	2400	14430	48	1850/2300	1070/1400	1881/2500	4900/5500	820
SCB10-2500/10		2500	6	2800	17160	48	2100/2640	1170/1600	1909/2500	5900/6600	1070

Voltage class 20kV, 315 up to 2500 kVA

Model	Voltage Class (kV)	Power [kVA]	Uk [%]	P0 [W]	Pk at 120°C[W]	Lwa [(db(A)]	Length [mm] IP00/IP23	Width [mm] IP00/IP23	Height [mm] IP00/IP23	Total Weight [kg] IP00/IP23	Roller distance [mm]
SCB10-315/20		315	6	770	3610	47	1600/2000	760/1500	1472/2300	1580/2180	660
SCB10-400/20		400	6	950	4120	48	1600/2000	760/1500	1462/2300	1830/2430	660
SCB10-500/20		500	6	1090	5320	48	1600/2000	760/1500	1500/2300	2160/2760	660
SCB10-630/20		630	6	1300	6470	48	1700/2300	920/1600	1512/2300	2340/2940	820
SCB10-800/20		800	6	1510	7620	50	1700/2300	920/1600	1692/2300	2630/3230	820
SCB10-1000/20	20	1000	6	1850	9350	50	1850/2300	920/1600	1757/2300	3260/3860	820
SCB10-1250/20	22	1250	6	2160	10990	52	1950/2300	920/1600	1912/2300	3880/4480	820
SCB10-1600/20		1600	6	2570	13170	52	1850/2500	920/1700	2017/2500	4590/5290	820
SCB10-2000/20		2000	6	3100	15800	53	1950/2500	1170/1700	2049/2500	5770/6470	1070
SCB10-2500/20		2500	6	3690	18720	53	2200/2700	1170/1700	2138/2600	7000/7750	1070
SCB10-2000/20		2000	8	3100	17400	53	2250/2500	1170/1700	2158/2500	6250/6950	1070
SCB10-2500/20		2500	8	3690	20210	53	2400/2700	1170/1700	2200/2600	7800/8850	1070

Voltage class 34.5kV, 315 up to 4000 kVA

Model	Voltage Class (kV)	Power [kVA]	Uk [%]	P0 [W]	Pk at 120°C[W]	Lwa [(db(A)]	Length [mm] IP00/IP20	Width [mm] IP00/IP20	Height [mm] IP00/IP20	Total Weight [kg] IP00/IP20	Roller distance [mm]
SCB10-315/35		315	6	1030	4130	50	1600/2550	920/1700	1725/2500	2090/2740	820
SCB10-400/35		400	6	1230	4670	50	1600/2550	920/1700	1730/2500	2690/3340	820
SCB10-500/35		500	6	1480	5930	50	1850/2550	920/1700	1766/2500	2820/3470	820
SCB10-630/35		630	6	1840	6870	52	1850/2900	920/1850	1766/2600	3170/3820	820
SCB10-800/35		800	6	2130	7750	52	1950/2900	920/1850	1816/2600	3930/4630	820
SCB10-1000/35	38.5	1000	6	2410	9350	52	1950/2900	920/1850	1972/2600	4540/5240	820
SCB10-1250/35	35	1250	6	2680	12270	52	1950/2900	920/1850	2151/2600	4940/5640	820
SCB10-1600/35	34.5	1600	6	3170	15110	52	2100/2900	1170/1850	2166/2800	6180/6880	1070
SCB10-2000/35		2000	6	3800	16180	53	2250/3300	1170/2100	2226/2950	7990/8790	1070
SCB10-2500/35		2500	6	4430	19850	53	2400/3300	1170/2100	2266/2950	9540/10340	1070
SCB10-3150/35		3150									
SCB10-4000/35		4000									

Models and Symbols

S C B 10 630 / 10

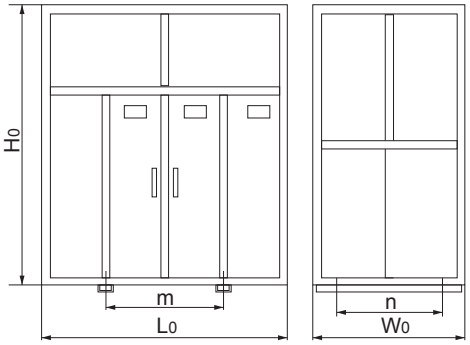
- 10kV
- 630kVA
- Level 10
- LV foil-type winding
- Resin-insulated dry-type transformer
- Three-phase

S C B – □ □ / □

- High-voltage Level(kV)
- Rated Capacity Level(kVA)
- Code of performance level (Design code)
- LV foil-type winding
- Resin-insulated dry-type transformer
- Three-phase

Optional Accessories

Protective enclosure



Eaton also provides optional accessories such as cooling fans, digital temperature monitors, enclosures and load tap switches.
Normally, safely considerations dictate that cast-resin transformers are supplied in protective enclosures. Indoor enclosures, in accordance with IP20 standard are available, as are IP23 Outdoor enclosures.

Temperature controller and cooling fans

The temperature is controlled by means of thermocouples provided on each transformer. The thermocouples (Pt100) are installed in the LV windings. The digital controller shows the operating temperature of each LV winding, sequentially. The temperature controller performs the following functions: Automatically switches the cooling fans on at 100°C and off at 80°C, it will send an alarm at 130°C and will send emergency-shutdown trip signals at 150°C. The operators can adjust the temperature settings. The temperature controller can be provided with a serial communication port for connection to a control room or energy management system.
The transformers can be cooled by air naturally (AN) or forced-air cooling (AF). Forced-air (AF) output of transformer is up to 140% of the self-cooled rating, and should be used for emergency non-recurring loads only.

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