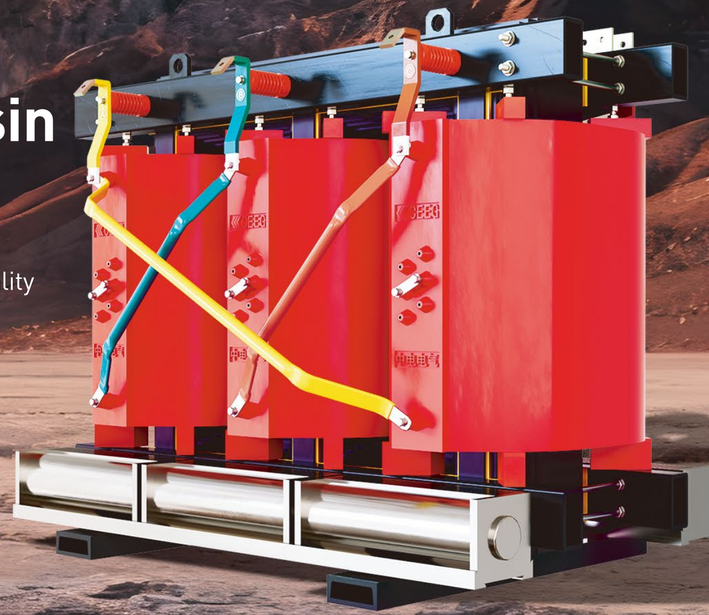
CEEG 中电电气

Cast Dry-Type SC(B) Epoxy Resin Transformer

Crafted with Precision | Perfect Quality



CEEG 中电电气

China Electric Equipment Transformer Co., Ltd.

R&D Center: No. 166, Kaiming Street, Yuhua District, Nanjing, Jiangsu Province

+86 400-080-0008

www.ceeg.cn | www.ceegenergy.com | www.ceegelectric.com

July 2026 Edition

CONTENTS

03 About CEEG
05 Product Features
07 Attachments
09 Design and Manufacturing
11 Quality Certifications
13 Specifications
23 Special Application Dry-Type Transformers
25 Use and Installation
27 Successful Cooperation Cases
31 Case Studies

About CEEG



CEEG Delivering Premium Power to the World

Since its establishment, China Electric Equipment Transformer Co., Ltd. (CEEG) has remained committed to the core values of Vision, Innovation, and Responsibility, and to its mission of "Delivering Premium Power to the World."

With more than 30 years of dedication to manufacturing excellence and technological innovation, CEEG has developed three core business segments: Power Transmission & Distribution, Energy Internet (Smart Grid), and Renewable Energy & Energy Storage Solutions.

CEEG has been recognized as a National-Level Specialized, Sophisticated, Distinctive and Innovative "Little Giant" Enterprise. Guided by the principles of safety, energy efficiency, and environmental sustainability, the company is committed to the R&D and manufacturing of power transmission and distribution equipment, and has established an integrated system covering manufacturing, sales, and customer service.

35 Years
Product and Technology R&D

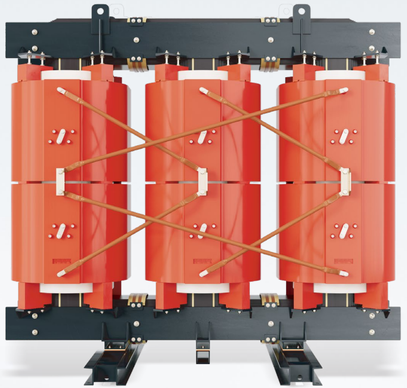
40w+
Units of products operating stably on the grid

150+
Countries and Regions Served

1.2w
Application Projects

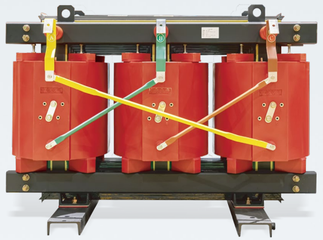


Product Features



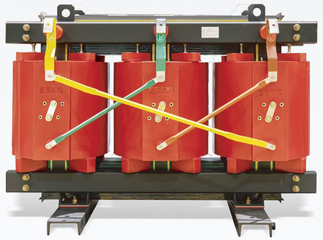
Traction Rectifier Transformer

- Excellent heat dissipation performance and strong overload capability, ensuring reliable operation under Class VI load conditions.
- Optimized balance of key technical parameters enables uniform load distribution and effectively reduces non-characteristic harmonics.
- The winding adopts an axial double-split structure, eliminating the need for a balancing reactor and providing a smoother DC output waveform.
- High mechanical strength, excellent moisture resistance, and partial discharge level ≤ 5 pC.
- Low noise and minimal electromagnetic radiation emissions.



10kV

- Low losses, low partial discharge levels, low noise, and excellent heat dissipation performance.
- The performance parameters of the SCB12, SCB13, and SCB14 series exceed the requirements of both GB and IEC standards.
- Safe, flame-retardant, fire-resistant, and environmentally friendly, allowing installation directly at load centers.
- Maintenance-free design, easy installation, and low total operating costs.
- High reliability and long service life.
- Excellent seismic resistance.
- Moisture-resistant and corrosion-resistant.



35kV

- Non-toxic, flame-retardant, and featuring high mechanical strength.
- Excellent short-circuit withstand capability, low losses, low no-load current, high impact resistance, and low noise levels.
- Strong overload capability, capable of continuous operation at 120% load without forced air cooling.
- High thermal insulation class, with a heat resistance temperature of up to 180°C.

Suitable for densely populated areas and urban substations with limited installation space.

Attachments



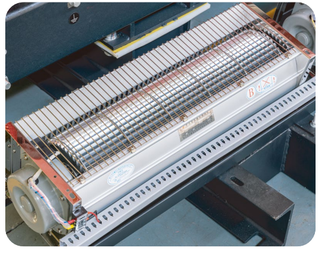
Enclosure

- The protective enclosure is designed for indoor use.
- For indoor installations, an enclosure is generally not required when sufficient space is available, allowing for better heat dissipation and easier maintenance. Optional enclosures with inspection windows are available upon request and can be customized in the customer's preferred color. For indoor installations, an enclosure is generally not required when sufficient space is available, allowing for better heat dissipation and easier maintenance. Optional enclosures with inspection windows are available upon request and can be customized in the customer's preferred color.
- Enclosure protection ratings are generally classified as IP20 or IP23, among others.
- IP20 protects against the ingress of solid foreign objects larger than 12 mm and withstands accidental impacts. IP23 provides all the protection of IP20 and additionally prevents the ingress of water droplets falling at an angle of up to 60° from the vertical.
- Available enclosure materials include powder-coated carbon steel, stainless steel, and aluminum composite panels.



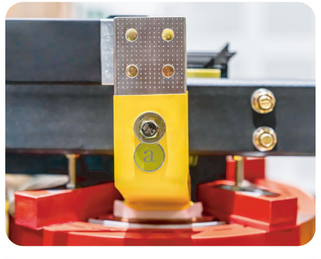
Temperature Control System

- All transformers are equipped with over-temperature protection devices. These devices primarily detect and control transformer temperature via PT thermistors embedded in the low-voltage windings, and output digital signals through RS232/485 communication interfaces. The device provides the following functions:
  - ✓ **Cyclic display of the three-phase winding temperature values during transformer operation.**
  - ✓ **Displays the temperature value of the hottest phase winding.**
  - ✓ **Over-temperature alarm and over-temperature trip.**
  - ✓ **Audible and visual alarm, and automatic cooling fan start-up.**



Air-cooling System

- The cooling methods of dry-type transformers are classified into Natural Air Cooling (AN) and Forced Air Cooling (AF).
- Under Natural Air Cooling (AN), the transformer can continuously deliver 100% of its rated capacity under normal operating conditions.
- Under Forced Air Cooling (AF), the transformer capacity can be increased by up to 50% under normal operating conditions, making it suitable for emergency overloads or intermittent overload operation. However, due to the significant increase in load losses and impedance resistance, long-term continuous overload operation under Forced Air Cooling (AF) is generally not recommended.



Connection Arrangements

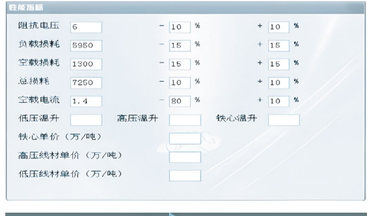
- In general, transformer cable entry and exit configurations can be classified as: bottom-entry/top-exit, top-entry/top-exit, bottom-entry/bottom-exit, and side-entry/side-exit arrangements.
- For transformers with a rated capacity of 200 kVA or below, standard terminal arrangements are adopted. In side-exit configurations, the user is responsible for connecting the transformer terminals to the cable system.
- For transformers with a rated capacity of 1600 kVA and above, phases A, B, and C are equipped with double-row outgoing terminals. The spacing between the two terminal rows is 10 mm for 1600 kVA and 2000 kVA units, and 12 mm for 2500 kVA units.
- As the transformer neutral terminal is located at the upper position, for switchgear where the neutral connection is routed from the bottom, it is recommended that the transformer neutral conductor still be connected to the switchgear from the top.

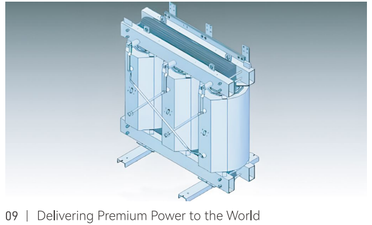
Design and Manufacturing

Product Design

China Electric Equipment Transformer Co., Ltd. has integrated more than 20 years of design, manufacturing, and testing experience from transformer manufacturing facilities across the group to develop an advanced 3D Parametric Design Platform. This proprietary software enables automated design, simulation, performance analysis, and cost optimization, significantly improving design efficiency and product reliability.

By fully incorporating the requirements of applicable national and industry standards, the platform ensures that every transformer is designed with advanced technology, optimized performance, and high compliance with quality requirements.





Advanced Testing and Inspection Equipment

Before shipment, products undergo rigorous testing and inspection in accordance with the requirements of national standards GB1094.XX and JB/T501-XXXX, with partial discharge testing, lightning impulse withstand testing, and noise testing as mandatory inspection items. Advanced testing and inspection equipment, coupled with a comprehensive quality control system, ensure the high quality and superior performance of our products.









High-Voltage Coil Semi-Finished Products

High-voltage windings are wound with high-quality conductors, reinforced with long- and short-cut glass fiber mat, and cast under vacuum using the world's most advanced Heidrich vacuum casting system. This effectively suppresses partial discharge, with a partial discharge level of ≤5 PC.





Low-Voltage Coil Semi-Finished Product

The low-voltage windings are wound using high-quality foil conductors on an automatic foil winding machine. The foil winding machine employs patented "hydraulic energy-saving tension curling device for foil wire," ±0.5 mm high-precision detection, and advanced argon arc welding technology, all of which play a critical role in ensuring the quality of the coil winding





Core

The core is made of high-quality, high-permeability grain-oriented silicon steel sheets, using a 45° fully skewed step-lap process. The surface is coated with a special moisture-proof and anti-rust coating, which effectively reduces no-load losses, no-load current, and noise levels.

Quality Certification

Dual CNAS-Accredited Laboratories & Authoritative Certification from TÜV Rheinland

Testing Quality

The Group operates two CNAS-accredited laboratories and one TÜV Rheinland-witnessed laboratory, equipped with over 100 sets of testing equipment, including surge voltage generators, automatic testers for dielectric loss under interference, multi-channel digital partial discharge analyzers, and environmental test chambers. Its hardware facilities, testing capabilities, and management standards meet international standards.

International Mutual Recognition

CNAS laboratory test reports are internationally recognized by 10 global organizations, including the International Accreditation Forum (IAF), the International Laboratory Accreditation Cooperation (ILAC), and the Asia-Pacific Accreditation Cooperation (APAC).

Social Responsibility

Drawing on years of experience in technological R&D and engineering applications, the testing platform actively fulfills its social responsibilities while participating in key national research projects and the formulation of national and industry standards, thereby promoting the healthy development of the industry.

Quality Assurance Across Six Key Areas

Electrical Safety

- Short-circuit test
- Overload temperature rise test
- Dielectric withstand test

Management Safety

- EMC test
- Fault waveform recording test
- Hardware-in-the-loop (HIL) simulation test

Structural Safety

- Structural strength verification
- System structural simulation
- Short-term and long-term structural design validation tests

Battery Safety

- Crush / impact test
- Overcharge / over-discharge test settings
- Short-circuit test

Fire Safety

- Thermal runaway propagation test
- Multidimensional sensing and detection test
- UL 9540A certification test

Environmental Reliability

- Low air pressure test
- Salt spray test
- Thermal shock & damp heat cycling test

Multi-dimensional Testing Capabilities

Comprehensive Technical Service Capabilities



Specifications

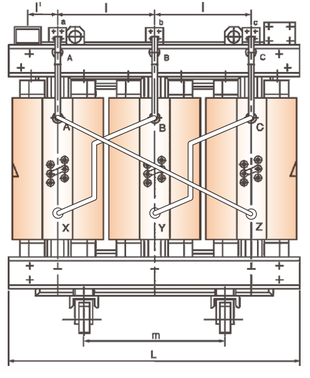
H-Class Insulation
SCB10-315–3150/10

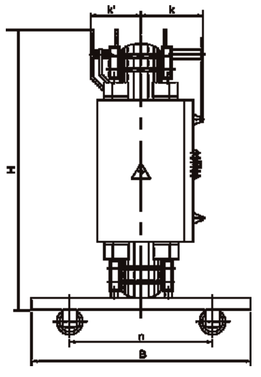
Rated High Voltage: 10 kV (10.5 kV, 11 kV, 6.6 kV, 6.3 kV, 6 kV)
Rated Low Voltage: 0.4 kV

Connection group: Dyn11 or Yyn0
Insulation level: LI 75 (60) kV / AC 35 (20) kV / LI AC 3

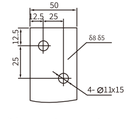
Tapping range: ±2 × 2.5%, etc.

Model	UK%	No-load Loss P0 (W)	Load Loss (°C) Pk (W)	I0%	LPA (AN) dB	B Track Gauge m×n	Main Body Dimensions L×W×H(mm)	Enclosure Dimensions L×W×H (mm)	Unit Weight	Enclosure Weight
SCB10-315/10	4	880	3730	1.0	55	660×820	1100×890×900	1600×1300×2200	1140	240
SCB10-400/10	4	980	4280	1.0	55	660×820	1150×895×930	1600×1300×2200	1300	240
SCB10-500/10	4	1160	5230	1.0	57	660×820	1180×905×1010	1600×1300×2200	1550	240
SCB10-630/10	6	1300	6400	0.85	57	820×980	1275×960×1020	1800×1400×2200	1900	280
SCB10-800/10	6	1520	7460	0.85	58	820×980	1430×1030×980	1800×1400×2200	2170	280
SCB10-1000/10	6	1770	8760	0.85	58	820×980	1600×1070×1050	2000×1500×2200	2800	300
SCB10-1250/10	6	2090	10370	0.85	60	820×1070	1680×1160×1120	2100×1500×2200	3230	320
SCB10-1600/10	6	2450	12580	0.85	60	820×1070	1820×1180×1260	2300×1600×2200	4090	360
SCB10-2000/10	6	3050	15560	0.70	62	1070×1070	1920×1200×1300	2300×1600×2200	4770	360
SCB10-2500/10	6	3600	18450	0.70	62	1070×1070	2030×1230×1360	2400×1600×2200	6060	380

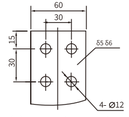




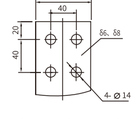
Low-voltage terminal busbar



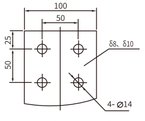
(b) 600A/315-400kVA



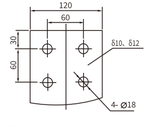
(c) 1000A/500-630kVA



(d) 1500A/800-1000kVA



(e) 2500A/1250-1600kVA



(f) 4000A/2000-2500kVA

Note: The dimensions and data provided in this manual are for design and selection purposes only. The final data shall be subject to the actual product as delivered from the factory. If SCB10 series transformers are required, relevant technical parameters can be obtained by contacting our company by phone.

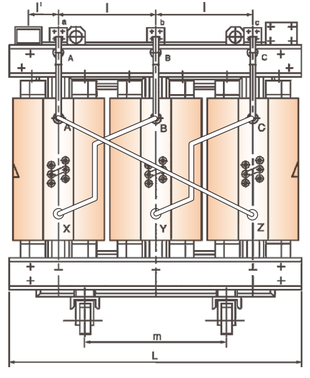
H-Class Insulation
SCB11-315–3150/10

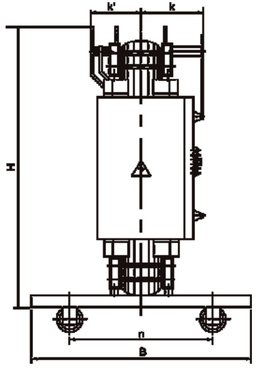
Rated High Voltage: 10 kV (10.5 kV, 11 kV, 6.6 kV, 6.3 kV, 6 kV)
Rated Low Voltage: 0.4 kV

Connection group: Dyn11 or Yyn0
Insulation level: LI 75 (60) kV / AC 35 (20) kV / LI AC 3

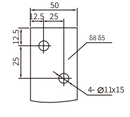
Tapping range: ±2 × 2.5%, etc.

Model	UK%	No-load Loss P0 (W)	Load Loss (°C) Pk (W)	I0%	LPA (AN) dB	B Track Gauge m×n	Main Body Dimensions L×W×H(mm)	Enclosure Dimensions L×W×H (mm)	Unit Weight	Enclosure Weight
SCB11-315/10	4	790	3730	1.0	55	660×820	1100×890×900	1600×1300×2200	1140	240
SCB11-400/10	4	880	4280	1.0	55	660×820	1150×895×930	1600×1300×2200	1300	240
SCB11-500/10	4	1040	5230	1.0	57	660×820	1180×905×1010	1600×1300×2200	1550	240
SCB11-630/10	6	1170	6400	0.85	57	820×980	1275×960×1020	1800×1400×2200	1900	280
SCB11-800/10	6	1360	7460	0.85	58	820×980	1430×1030×980	1800×1400×2200	2170	280
SCB11-1000/10	6	1590	8760	0.85	58	820×980	1600×1070×1050	2000×1500×2200	2800	300
SCB11-1250/10	6	1880	10370	0.85	60	820×1070	1680×1160×1120	2100×1500×2200	3230	320
SCB11-1600/10	6	2200	12580	0.85	60	820×1070	1820×1180×1260	2300×1600×2200	4090	360
SCB11-2000/10	6	2740	15560	0.70	62	1070×1070	1920×1200×1300	2300×1600×2200	4770	360
SCB11-2500/10	6	3240	18450	0.70	62	1070×1070	2030×1230×1360	2400×1600×2200	6060	380

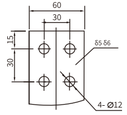




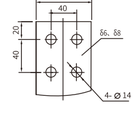
Low-voltage terminal busbar



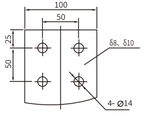
(b) 600A/315-400kVA



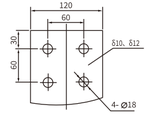
(c) 1000A/500-630kVA



(d) 1500A/800-1000kVA



(e) 2500A/1250-1600kVA



(f) 4000A/2000-2500kVA

Note: The dimensions and data provided in this manual are for design and selection purposes only. The final data shall be subject to the actual product as delivered from the factory. If SCB11 series transformers are required, relevant technical parameters can be obtained by contacting our company by phone.

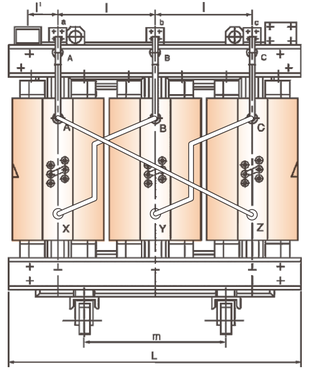
H-Class Insulation
SCB12-315–3150/10

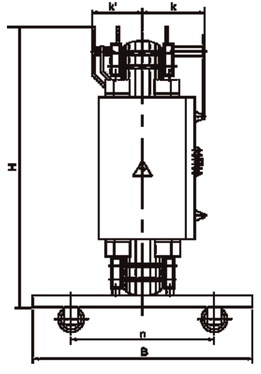
Rated High Voltage: 10 kV (10.5 kV, 11 kV, 6.6 kV, 6.3 kV, 6 kV)
Rated Low Voltage: 0.4 kV

Connection group: Dyn11 or Yyn0
Insulation level: LI 75 (60) kV / AC 35 (20) kV / LI AC 3

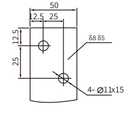
Tapping range: ±2 × 2.5%, etc.

Model	UK%	No-load Loss P0 (W)	Load Loss (°C) Pk (W)	I0%	LPA (AN) dB	B Track Gauge m×n	Main Body Dimensions L×W×H(mm)	Enclosure Dimensions L×W×H (mm)	Unit Weight	Enclosure Weight
SCB12-315/10	4	705	3730	1.0	55	660×820	1100×890×900	1600×1300×2200	1140	240
SCB12-400/10	4	785	4280	1.0	55	660×820	1150×895×930	1600×1300×2200	1300	240
SCB12-500/10	4	930	5230	1.0	57	660×820	1180×905×1010	1600×1300×2200	1550	240
SCB12-630/10	6	140	6400	0.85	57	820×980	1275×960×1020	1800×1400×2200	1900	280
SCB12-800/10	6	1210	7460	0.85	58	820×980	1430×1030×980	1800×1400×2200	2170	280
SCB12-1000/10	6	1410	8760	0.85	58	820×980	1600×1070×1050	2000×1500×2200	2800	300
SCB12-1250/10	6	1670	10370	0.85	60	820×1070	1680×1060×1120	2100×1500×2200	3230	320
SCB12-1600/10	6	1960	12580	0.85	60	820×1070	1820×1180×1260	2100×1600×2200	4090	360
SCB12-2000/10	6	2440	15560	0.70	62	1070×1070	1920×1200×1300	2300×1600×2200	4770	360
SCB12-2500/10	6	2880	18450	0.70	62	1070×1070	2030×1230×1360	2400×1600×2200	6060	380

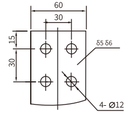




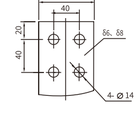
Low-voltage terminal busbar



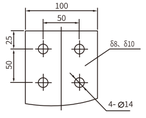
(b) 600A/315-400kVA



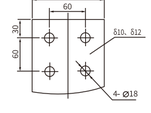
(c) 1000A/500-630kVA



(d) 1500A/800-1000kVA



(e) 2500A/1250-1600kVA



(f) 4000A/2000-2500kVA

Note: The dimensions and data provided in this manual are for design and selection purposes only. The final data shall be subject to the actual product as delivered from the factory. If SCB12 series transformers are required, relevant technical parameters can be obtained by contacting our company by phone.

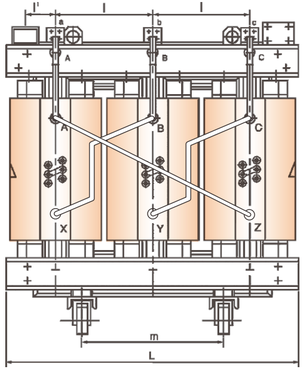
H-Class Insulation
SCB13-315–3150/10

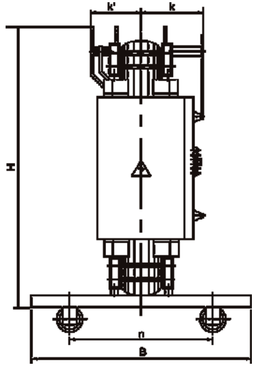
Rated High Voltage: 10 kV (10.5 kV, 11 kV, 6.6 kV, 6.3 kV, 6 kV)
Rated Low Voltage: 0.4 kV

Connection group: Dyn11 or Yyn0
Insulation level: LI 75 (60) kV / AC 35 (20) kV / LI AC 3

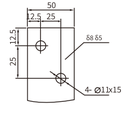
Tapping range: ±2 × 2.5%, etc.

Model	UK%	No-load Loss P0 (W)	Load Loss (°C) Pk (W)	I0%	LPA (AN) dB	B Track Gauge m×n	Main Body Dimensions L×W×H(mm)	Enclosure Dimensions L×W×H (mm)	Unit Weight	Enclosure Weight
SCB13-315/10	4	635	3355	1.0	55	660×820	1100×890×900	1600×1300×2200	1140	240
SCB13-400/10	4	705	3850	1.0	55	660×820	1150×895×930	1600×1300×2200	1300	240
SCB13-500/10	4	835	4705	1.0	57	660×820	1180×905×1010	1600×1300×2200	1550	240
SCB13-630/10	6	935	5760	0.85	57	820×980	1275×960×1020	1800×1400×2200	1900	280
SCB13-800/10	6	1090	6715	0.85	58	820×980	1430×1030×980	1800×1400×2200	2170	280
SCB13-1000/10	6	1270	7885	0.85	58	820×980	1600×1070×1050	2000×1500×2200	2800	300
SCB13-1250/10	6	1500	9335	0.85	60	820×1070	1680×1160×1120	2100×1500×2200	3230	320
SCB13-1600/10	6	1760	11320	0.85	60	820×1070	1820×1180×1260	2300×1600×2200	4090	360
SCB13-2000/10	6	2190	14005	0.70	62	1070×1070	1920×1200×1300	2300×1600×2200	4770	360
SCB13-2500/10	6	2590	16605	0.70	62	1070×1070	2030×1230×1360	2400×1600×2200	6060	380

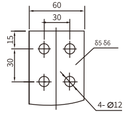




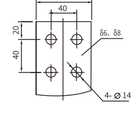
Low-voltage terminal busbar



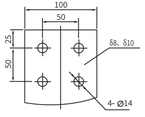
(b) 600A/315-400kVA



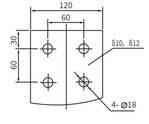
(c) 1000A/500-630kVA



(d) 1500A/800-1000kVA



(e) 2500A/1250-1600kVA



(f) 4000A/2000-2500kVA

Note: The dimensions and data provided in this manual are for design and selection purposes only. The final data shall be subject to the actual product as delivered from the factory. If SCB13 series transformers are required, relevant technical parameters can be obtained by contacting our company by phone.

SCB14-315~3150/10 Energy Efficiency Grade 2, in compliance with GB 20052-2024

Rated High Voltage: 10 kV (10.5 kV, 11 kV, 6.6 kV, 6.3 kV, 6 kV)
Rated Low Voltage: 0.4 kV

Connection group: Dyn11 or Yyn0
Insulation level: LI 75 (60) kV / AC 35 (20) kV / LI AC 3

Tapping range: ±2 × 2.5%, etc.

Model	UK%	No-load Loss P0 (W)	Load Loss (°C) Pk (W)	I0%	LPA (AN) dB	B Track Gauge m×n	Main Body Dimensions L×W×H(mm)	Enclosure Dimensions L×W×H (mm)	Unit Weight	Enclosure Weight
SCB14-315/10	4	600	3355	1.0	65	660×820	1140×890×960	1600×1300×2200	1400	240
SCB14-400/10	4	665	3850	1.0	65	660×820	1140×900×990	1600×1300×2200	1710	240
SCB14-500/10	4	790	4705	1.0	57	660×820	1130×910×1060	1600×1300×2200	1820	240
SCB14-630/10	6	885	5760	0.85	57	820×980	1320×1020×990	1800×1400×2200	2160	280
SCB14-800/10	6	1035	6715	0.85	58	820×980	1400×1020×1070	1800×1400×2200	2450	280
SCB14-1000/10	6	1205	7885	0.85	58	820×980	1400×1040×1070	2000×1500×2200	2680	300
SCB14-1250/10	6	1420	9335	0.85	60	820×1070	1490×1120×1110	2000×1500×2200	3350	300
SCB14-1600/10	6	1665	11320	0.85	60	820×1070	1590×1150×1230	2200×1600×2200	4460	350
SCB14-2000/10	6	2075	14005	0.70	62	1070×1070	1600×1170×1290	2200×1600×2200	5110	350
SCB14-2500/10	6	2450	16605	0.70	62	1070×1070	1750×1200×1350	2200×1600×2200	6000	350

SCB18-315~3150/10 Energy Efficiency Grade 1, in compliance with GB 20052-2024

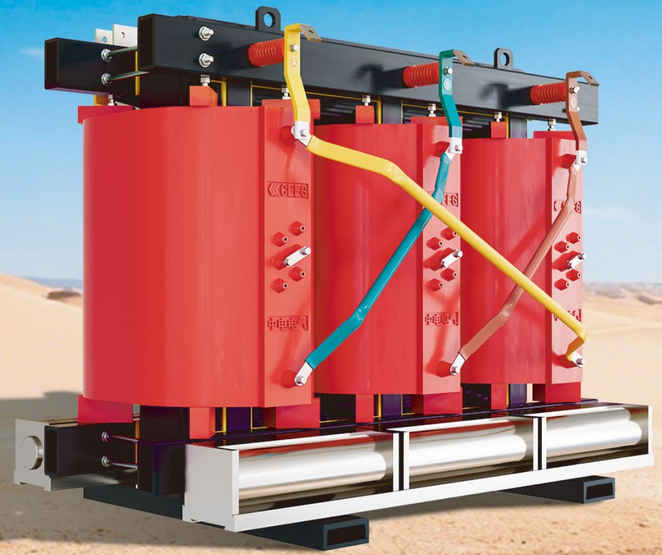
Rated High Voltage: 10 kV (10.5 kV, 11 kV, 6.6 kV, 6.3 kV, 6 kV)
Rated Low Voltage: 0.4 kV

Connection group: Dyn11 or Yyn0
Insulation level: LI 75 (60) kV / AC 35 (20) kV / LI AC 3

Tapping range: ±2 × 2.5%, etc.

Model	UK%	No-load Loss P0 (W)	Load loss (°C) Pk (W)	I0%	LPA (AN) dB	B Track Gauge m×n	Main Body Dimensions L×W×H(mm)	Enclosure Dimensions L×W×H (mm)	Unit Weight	Enclosure Weight
SCB18-315/10	4	510	3350	1.0	65	660×820	1140×890×960	1600×1300×2200	1400	240
SCB18-400/10	4	570	3850	1.0	65	660×820	1140×900×990	1600×1300×2200	1710	240
SCB18-500/10	4	670	4750	1.0	57	660×820	1130×910×1060	1600×1300×2200	1820	240
SCB18-630/10	6	750	5760	0.85	57	820×980	1320×1020×990	1800×1400×2200	2160	280
SCB18-800/10	6	875	6715	0.85	58	820×980	1400×1020×1070	1800×1400×2200	2450	280
SCB18-1000/10	6	1020	7885	0.85	58	820×980	1400×1040×1070	2000×1500×2200	2680	300
SCB18-1250/10	6	1205	9335	0.85	60	820×1070	1490×1120×1110	2000×1500×2200	3350	300
SCB18-1600/10	6	1415	11320	0.85	60	820×1070	1590×1150×1230	2200×1600×2200	4460	350
SCB18-2000/10	6	1760	14005	0.70	62	1070×1070	1600×1170×1290	2200×1600×2200	5110	350
SCB18-2500/10	6	2080	16605	0.70	62	1070×1070	1750×1200×1350	2200×1600×2200	6000	350

Special-Purpose Dry Type Transformers



• Traction Rectifier Transformers

Rated capacity: 800–4,400 kVA; voltage ratings: 10 kV and 35 kV; rectification pulse counts: 12-pulse and 24-pulse. The 24-pulse rectification circuit reduces harmonic pollution to the power grid by 50% compared to the 12-pulse rectification circuit, eliminating the need for filtering devices at that location.Suitable for power supply systems in urban subways and rail transit.

• Excitation Rectifier Transformers

Rated capacity: 315–3000×3 kVA; voltage ratings: 10, 13.8, 15.75, 20, and 22 kV; typically features a single-phase configuration, high-voltage out-of-phase enclosed busbar feed-in, and shielding between high-voltage windings. Suitable for static excitation systems in hydroelectric and thermal power plants.

• General-Purpose Rectifier Transformers

Rated capacity: 315–4000 kVA; voltage ratings: 10 and 35 kV. Suitable for rectifier systems in general industrial and mining enterprises.

• H-Bridge Rectifier Transformers

Rated capacity: 315–2,500 kVA; voltage ratings: 3 and 6 kV. Each unit has 3–9 windings per phase and can be combined in pairs and connected in phase-shifted configuration to form an H-bridge rectifier. Suitable for AC-to-AC variable-frequency power supply systems for electric motors.

• Three-Phase Five-Column Rectifier Transformer

Rated capacity: 30–2,500 kVA; voltage ratings: 10 and 35 kV. When used in double-reverse-star rectifier circuits, these transformers eliminate the need for balancing reactors and reduce voltage-regulation current surges, while also reducing the overall height. They are suitable for installations with limited space or for use in reverse-star rectifier systems.

• Metallurgical Electric Furnace Transformers

Rated current less than 20,000 A; voltage ratings of 10 and 35 kV; equipped with a no-load tap changer. Suitable for power supply systems of high-current metallurgical electric furnaces.

• Transformers for Marine and Oil Production Platforms

Rated capacity: 30–10,000 kVA; voltage ratings: 0.38 and 35 kV. Certified by the China Classification Society (CCS) and holds a CCS Type Approval Certificate for marine products. Suitable for power supply systems on ships and oil production platforms.

• Nuclear Power Plant Transformers

Rated capacity: 1,000–1,250 kVA; voltage ratings: 10 kV; certified through IE-class dry-type transformer testing and certification for nuclear power plants. Suitable for IE-class electrical systems in the nuclear island of nuclear power plants and nuclear reactor equipment.

• Transformers for Electrified Railways

Rated capacity: 20–315 kVA; voltage rating: 27.5 kV; connection groups: DYN11, LI0, IIYN0 (two-phase to three-phase). Suitable for auxiliary power systems in traction substations, switching stations, AT stations, and section substations of electrified railways.

• Autotransformers

Rated capacity: 30–2,500 kVA; voltage ratings: 10 and 35 kV. This type of transformer helps reduce costs. Suitable for motor starting power supply systems.

• Dual-Voltage Exchange Transformers

Rated capacity: 30–2,500 kVA; voltage ratings: 6 and 10 kV. Voltage conversion (between 6 kV and 10 kV) is achieved by changing the connection group or switching the winding segment connections. Suitable for power supply systems operating at different voltages.

Usage and Installation

Operating Conditions for the Transformer

- The installation site must be protected from flooding, with an altitude not exceeding 1,000 meters (unless otherwise specified), and an ambient temperature not exceeding 40°C. Relative humidity is 100%, and the ambient temperature.
- rangeis40°Cto-25°C(aloadswitchandtemperaturecontrollerarerequiredat-25°C). The installation site shall be clean and free from conductive dust and corrosive gases, and shall provide good natural ventilation or adequate forced ventilation conditions.
- When installing the product, generally maintain a distance of 300 mm from walls and other obstacles, and ensure a distance of 300 mm between adjacent transformers. These distances may be adjusted appropriately for distribution boxes and other locations with limited installation space.



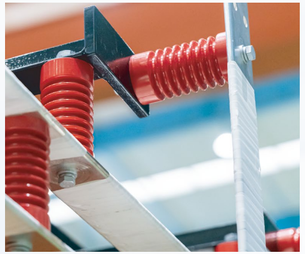
Product Packaging and Transportation

- The products are available in two types: open type (without protective enclosure) and enclosed type (with protective enclosure). They are generally suitable for transportation by railway, waterway, or road. Depending on transportation requirements, the transformer may be partially disassembled for shipment (such as the on-load tap changer, temperature controller, cooling fan unit, and protective enclosure, which can be packed separately), or the entire unit may be packed and transported in a single package.
- For products in shipping crates, during lifting operations, slings must be attached to the wooden blocks at the four corners of the crate's bate. For unpacked products,use a dedicated lifting device. Perform a testlift 100mm–150mm off the ground first; proceed with the formal lift only after confirming no abnormalities.
- During transportation, the route should not include inclines or declines greater than 15°. To ensure the vehicle bears the load evenly, position the product's center of gravity on the vehicle's vertical centerline when loading. To prevent product displacement or overturning during transport, align the product's long axis with the direction of travel, and secure the product firmly to the transport vehicle.



Appearance Inspection Before Installation

- After unpacking, remove the protective devices and inspect the external condition of the transformer. Special attention should be paid to the mechanical integrity of the windings and core, the clamping condition of the windings and core, and the tightness of connection bolts.
- Following the inspection, all fasteners and the clamping parts of the windings and core shall be re-tightened in sequence to ensure that no looseness exists.
- Remove dust and contaminants from the transformer using dry compressed air or a clean cloth.
- If the transformer has been stored for a prolonged period and water droplets or condensation are found on its surface, drying treatment shall be performed until the insulation resistance of the windings complies with the specified requirements.



Inspection Before Commissioning

- Measure the DC resistance of the high-voltage and low-voltage windings and verify that the measured values are consistent with those provided in the factory test certificate.
- Inspect the core grounding to ensure that the grounding connection is reliable and that no foreign objects are causing unintended grounding or bridging.
- Measure the insulation resistance.



Energization and Operation

- Before being placed into service, the transformer shall be operated under no-load conditions. After three impact closing operations, the protection system shall be inspected and adjusted.
- At the time of delivery, the high-voltage tap position is set at the rated position. If voltage adjustment is required during operation, the tap connections may be changed according to the tap voltages indicated on the nameplate (for off-circuit tap changing). Such adjustment must be carried out only after the transformer has been completely de-energized.



Case Studies



Wukesong Sports Center
Beijing Olympics



Beijing Olympic Badminton Arena



Beijing Olympic
Qingdao Sailing Command Center



Nanjing Metro Line 4



Shanghai World Expo
Huangpu River Crossing Tunnel Project



Shanghai F1 Circuit



Shenzhou-5 Manned
Spaceflight Project



Philippines Cement Plant



Beijing South Railway Station



Guangdong-Hong Kong
Cross-Sea Bridge



Subic Bay Solar Power Plant
Philippines



Capital Airport



China Mobile



China Unicom



China Telecom



China Petroleum & Chemical Corporation



Sinopec Shengli Construction Engineering Co., Ltd.



CNOOC Zhongjie Petrochemical Co., Ltd.



Beijing Electric Power Company



Anhui Provincial Power Company



Liaoning Provincial Power Company



Shandong Electric Power Construction Third Engineering Company



Shaanxi Provincial Power Company



Tianjin Electric Power Company



Gezhouba Group Power Co., Ltd.



China Power Investment Zhangbei Wind Power Co., Ltd.



China Nuclear Power Engineering Co., Ltd



China National Nuclear Corporation 404



Wuxi Metro Group Co., Ltd.



Hainan Aircraft Carrier Base



Qingdao Aircraft Carrier Base



Rocket Force Base



Datong Coal Mining Group



Huaneng Jimo Wind Power Co., Ltd.



Beijing Oriental Petrochemical Co., Ltd.



Shenhua Materials Group Co., Ltd.



MCC South (Wuhan) Automation Co., Ltd.



Beijing Shougang Xingang Co., Ltd.



Baoshan Iron & Steel Co., Ltd.



CSIC Shipbuilding Co., Ltd.



Federal Pharmaceutical (Inner Mongolia) Co., Ltd.



Siemens China Co., Ltd.



Mengniu Dairy (Ma'anshan) Co., Ltd.



Nanjing CEC Panda Flat Panel Display Technology

Case Studies (Selected)

Telecommunications Industry		
China Mobile Communications Co., Ltd.	China Mobile Communications Group Huai'an Call Center	China Mobile International Information Port Phase I Project
China Mobile Communications Group Anhui Co., Ltd.	China Mobile Communications Group Zhejiang Co., Ltd.	China Telecom Corporation Limited
China Mobile Communications Group Anhui Co., Ltd., Anqing Branch	China Mobile Communications Group Zhejiang Co., Ltd., Ningbo Branch	China Telecom Corporation Limited, Nanjing Branch
China Mobile Communications Group Anhui Co., Ltd., Ma'anshan Branch	China Mobile Communications Group Shanghai Co., Ltd	China Telecom Corporation Limited, Zhejiang Branch
China Mobile Communications Group Anhui Co., Ltd., Wuhu Branch	China Mobile Communications Group Hubei Co., Ltd.	China Telecom Corporation Limited, Shanghai Branch
China Mobile Communications Group Anhui Co., Ltd., Huangshan Branch	China Mobile Communications Group Hebei Co., Ltd.	China Telecom Corporation Limited, Hangzhou Branch
China Mobile Communications Group Anhui Co., Ltd., Bozhou Branch	China Mobile Communications Group Chongqing Co., Ltd.	China Telecom Shaanxi Company Smart Cloud Service Base
China Mobile Communications Group Anhui Co., Ltd. Bengbu Branch	China Mobile Communications Group Gansu Co., Ltd.	China United Network Communications Co., Ltd.
China Mobile Communications Group Jiangsu Co., Ltd.	China Mobile Communications Group Qinghai Co., Ltd.	Unicom Cloud Data Co., Ltd.
China Mobile Communications Group Jiangsu Co., Ltd., Taizhou Branch	China Mobile Communications Group Jilin Co., Ltd.	China Unicom Langfang Data Branch
China Mobile Communications Group Jiangsu Co., Ltd. Wuxi Branch	China Mobile Communications Group Ningxia Co., Ltd.	China United Network Communications Co., Ltd., Hohhot Data Branch
China Mobile Communications Group Jiangsu Co., Ltd., Yancheng Branch	China Mobile Communications Group Guizhou Co., Ltd.	China Ordnance Communications Technology Co., Ltd.

Industry	Region	Project Name	Industry	Region	Project Name	Industry	Project Name
Highway Tunnel	Hubei	Shibai Expressway	Highway Tunnel	Guizhou	Dasi Expressway	Military Industry	Supply Procurement Office of Unit 92304, People's Liberation Army
	Shanxi	Yangzuo Expressway		Guangdong	Gaopu Road, Tianhe District		Unit 96311 Supply Procurement Station
		Shanxi Wangfan Expressway		Jiangxi	Jiujiang Yangtze River Highway Bridge		People's Liberation Army Unit 96542
		Shuozhou Ring Expressway			Jingmu Expressway		Equipment Department of Unit 96101, People's Liberation Army
		Changping Expressway		Gansu	Qinglan Expressway		Inner Mongolia Northern Heavy Industries Group Co., Ltd.
		Yuan Shen Expressway			Dangdie Expressway		Inner Mongolia First Machinery Group Co., Ltd.
		Yangquan West Ring Expressway			Gansu Provincial Road Tunnels		Northern Engineering Design Research Institute Co., Ltd.
		Wangzhuang Expressway		Henan	Deng-Ru Expressway		China Northern Vehicle Research Institute
		Linli Expressway		Guangxi	Nanning Outer Ring Road and Tunnel		Jinxi Axle Co., Ltd
	Hunan	Yonglan Expressway		Qinghai	Gonghe-Yushu Highway		Jinxi Industrial Group Co., Ltd.
		Yanru Expressway and Tunnel			Tongtianhe Tunnel		Changzhi Tsinghua Machinery Plant
		Shuangzhou Road, Lengshuitan District, Yongzhou City			Hekashan Tunne		East China Institute of Optoelectronic Integrated Devices
	Guizhou	Bidu Expressway		Sichuan	Da-Shan Expressway	Electric Power	Tianjin Municipal Power Company
		Yan-De Expressway		Yunnan	Dali-Lijiang Expressway		State Grid Shaanxi Electric Power Company

Industry	Project Name	Industry	Project Name	Industry	Project Name
Electric Power	Liaoning Provincial Electric Power Co., Ltd.	Metallurgy	Beijing Shougang Electromechanical Co., Ltd. Motor Plant		Shaanxi Hengyuan Coal & Power Group Zhaojialiang Coal Mine Co., Ltd.
	Jiaxiang County Power Supply Company		MCC South Engineering Technology Co., Ltd.		Inner Mongolia Pingzhuang Energy Co., Ltd.
	Cangzhou Power Supply Company	Petrochemical	Tangshan Zhonghao Chemical Co., Ltd.		Shaanxi Hengyuan Coal & Power Group Electrochemical Co., Ltd.
	Zhenfeng Power Supply Bureau		Chongqing Huage Biochemical Co., Ltd.		Zibo Mining Group Materials Supply Co., Ltd.
	Wuxi Guangying Industrial Co., Ltd.		Henan Energy and Chemical Industry Group Heavy Equipment Co., Ltd.		Shenhua Baorixile Energy Co., Ltd.
	Tianjin Jinghai Power Supply Co., Ltd.		China Rubber (Anshan) Chemical Industry Co., Ltd.	Coal	Shenfu Economic Development Zone Haiwan Coal Mine Co., Ltd.
	Anhui Electric Power Fanchang Power Supply Co., Ltd.		Sinopec Qingdao Petrochemical Co., Ltd.		Shanxi Jinmei Group Equipment and Materials Co., Ltd.
	Zhenjiang Dazhao Group Co., Ltd.		Anyang Chemical Industry Group Co., Ltd.		Shaanxi Guojiahe Coal Industry Co., Ltd.
	Jinhua Electric Switchgear Co., Ltd.		Jiangsu Chengxing Phosphate Chemical Co., Ltd.		Shaanxi Coal Industry Group Huangling Jianzhuang Mining Co., Ltd.
	Beijing Jingdian Boyuan Power Supply and Distribution Engineering Installation Co., Ltd.		Jiangsu Jingshen Salt Chemical Co., Ltd.		Huainan Mining (Group) Co., Ltd.
Metallurgy	Nanjing Iron and Steel Joint Stock Co., Ltd.		Daqing Zhonglan Petrochemical Co., Ltd.	Pharmaceuticals	North China Pharmaceutical Co., Ltd.
	Beijing General Research Institute of Mining and Metallurgy		China Salt Jintan Salt Chemical Co., Ltd.		Chinese Academy of Medical Sciences
	Nanjing Iron & Steel Co., Ltd.		Hubei Dayukou Chemical Co., Ltd.		China Resources Shuanghe Pharmaceutical Co., Ltd.
	Tangshan Guofeng Iron & Steel Co., Ltd.	Coal	Zaozhuang Mining Group Gaozhuang Coal Industry Co., Ltd.		Huazhong Pharmaceutical Co., Ltd.

Service Network

With more than 400,000 transformers operating reliably worldwide, CEEG has established a strong global presence and earned the trust of customers across diverse industries.
Our portfolio includes transformers, photovoltaic modules, energy storage inverters, and integrated energy storage systems, serving customers in over 150 countries and regions throughout Europe, Australia, Southeast Asia, the Middle East, and Africa.
Driven by innovation and a commitment to sustainability, CEEG continues to deliver advanced energy solutions that support the global transition to a greener future.

