CEEG 中电电气

Delivering Premium Power To The World

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CEEG Transformer Co.,Ltd

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CEEG

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+ COMPANY PROFILE

KEEPING DELIVERING PREMIUM POWER TO THE WORLD

Founded in 1990, CEEG Transformer Co., LTD（CEEG）has always adhered to the core value concept of "Vision, Innovation and Responsibility", taking "Delivering Premium Power to The World " as its responsibility, focusing on production and manufacturing for more than 30 years, forming electricity Power transformers, new energy and system solutions three pillar industries.

CEEG guided by the green concept of "Safety, Energy saving and Environmental protection", is committed to the research and development and production of transmission and distribution equipment, which is a collection of research and development, manufacturing and sales in one. CEEG has won the honorary title of national innovative enterprise, Top 500 Asian brands, China famous trademark, and national End-users' satisfaction products, and has the relatively larger dry type transformer production base in the world with American DuPont Nomex® paper as insulation material transformer manufacturer, the company registered capital of 300 million yuan, covers a total area of 82.4 acres, with an annual output of 40,000MVA transformer production capacity, sales and service outlets all over the country in major cities.

The company's main products are: 220kV and 110kV railway traction transformer, Scott railway traction transformers, 2x27.5kV railway auto transformers, 220kV and below oil-immersed type transformers, 35kV and below cast resin transformers, SG series open ventilated transformer and SCR semi-enclosed dry type transformers, energy storage specialized transformer, hydrogen-specific rectifier transformer, urban railway traction rectifier transformer apparatus, urban rail railway traction rectifier group, amorphous alloy dry type transformer, mining explosion-proof transformer and explosion-proof switch, high and low voltage switch cabinet, frequency conversion transformer, anti-harmonic transformer, marine transformer, urban rail transit intelligent pad-mounted, pad-mounted & European type substation, wind and photovoltaic substation, reactor,etc. Sales cover railway, electricity, electronics, urban rail transit, hydropower, nuclear power, wind power, coal mining, communications, construction, petroleum, chemical, aerospace and other industries.

CEEG has an advanced three-dimensional integrated design cloud platform in the industry, which improves the design quality of products and meets with customer needs to the maximum extent with reliable power solutions. In recent years, the company has participated in the construction of many national key projects, such as the Beijing Olympic Games project, Nanjing South Railway Station, Shenyang National Games, Nanjing Youth Olympic Games, Shanghai WorldExpo project, manned spaceflight project, Beijing South Railway Station, Shanghai Yangtze River Tunnel and Bridge, Shenzhen Lingao Nuclear PowerProject, and its products are exported to Europe, Australia, Southeast Asia, the Middle East, Africa and other parts of the world.

Walking with giants and keeping pace with the world!

The company has established long-term strategic partnerships with world-class enterprises such as DuPont, ABB and Siemens. The pursuit of innovation, the fulfillment of responsibilities, by continuously upgrading products, quality, and services, we have developed into a large domestic supplier of power transmission and distribution equipment, the industrial foundation is strong. The series of products produced by the company have been exported to more than 80 countries and regions in the world, the strategic layout of brand internationalization and service globalization has been formed, and is transforming to" manufacturing globalization + terminal solution + service", and committed to making CEEG the world's top choice!

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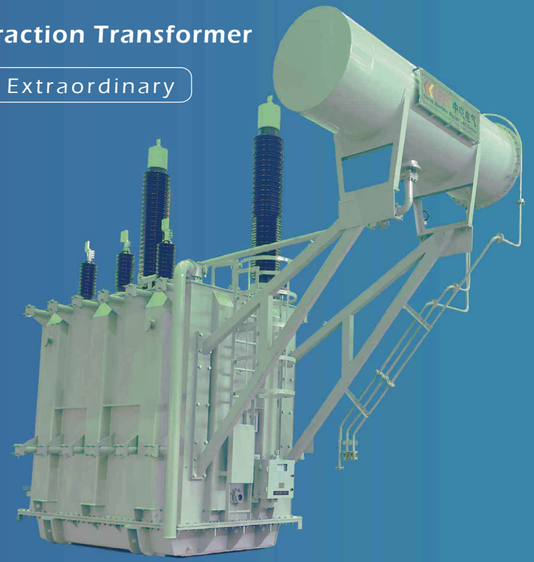
PRODUCT INTRODUCTION

CEEG 中电电气
Delivering Premium Power To The World

220 (110) kV Railway Traction Transformer

Safe and Reliable Extraordinary



Product Introduction

1. Utilization of DuPont's Nomex insulation system, registered trademark: Anleide.
2. Advanced seven-level temperature control technology.
3. High overload capacity: Meets typical overload curves, capable of sustained 30% overload.
4. Low partial discharge: Routine Partial discharge is less than 40pC.
5. Short-circuit withstand capability: Meets the operationalcharacteristics of frequent near-end short circuits in electrified railways.

Scope of Application

Suitable for electrified high-speed railway passenger dedicated lines as well as heavy-duty freight dedicated lines

Reference

Jing-Shi-Wu High-speed Railway, Jin-QinLine, Lan-Xin Line, Dun-Ge Line, Da-Qin Line, Guangzhou-Zhuhai Line, Chongqing-Fuling Line, and many other domestic electrified railway lines. Export destinations include Siba, En Bi, A.E. Distribution sh.p.k and more.

220kV, 110kV (66kV) Power Transformer

Precision Craftsmanship
Perfect Quality

Scope of Application

It is beneficial for meeting peak electricity demand during summer and is suitable for high-load distribution networks in high-temperature environments. It is also suitable for locations with impact loads and continuous overload requirements, such as the steel and metallurgical industry, railway transportation, power plants, hydroelectric stations, etc

Product Introduction

1. Adopting a fully enclosed manufacturing process with constant temperature, humidity, and dust control to ensure lean and controlled product quality.
2. Utilizing the original "Seven-level Temperature Control Technology" system in conjunction with finite element analysis of temperature distribution to fully leverage the performance advantages of various insulation materials.
3. Implementing unique noise-reduction methods in different components to ensure noise levels surpass national standards.
4. Employing one-time molding technology for sealing components and conducting multiple leakage tests, including fluorescent, positive pressure, and negative pressure methods, to ensure leakage-free products.
5. The core adopts Swiss advanced stacking manufacturing technology & production process, with low no-load loss.
6. Successfully passing the short-circuit test conducted by the National Transformer Testing Center, ensuring the safety and reliability of the product

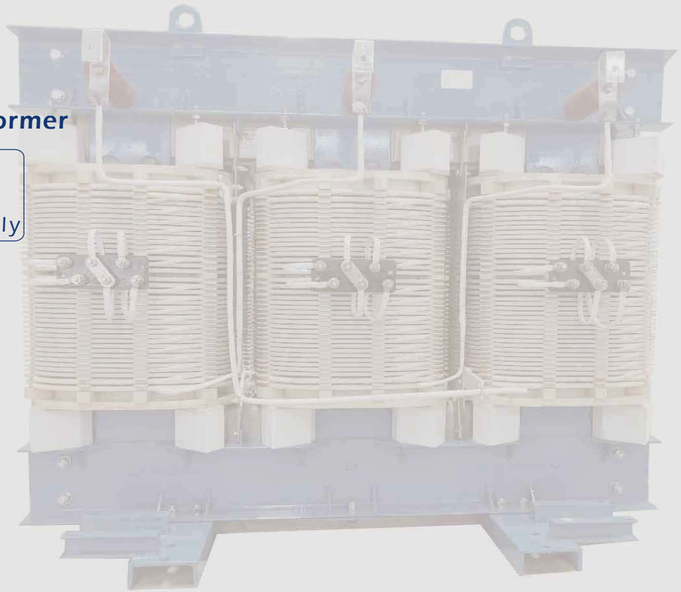
Product performance

Beijing Zhongmei Electric Co., Ltd., Beijing Lufeng Times Technology Development Co., Ltd., Shenhua United Construction Co., Ltd., Chongqing Yuzhan Electric Co., Ltd., Hubei Power Survey and Design Institute Co., Ltd. (Yuanwanghe Storage Jiangdong 100MW PV Field Project), Xinjiang Production and Construction Corps, Huazi Technology Co., Ltd., Pinggao Group International Engineering Co., Ltd., Wuxi Metro, Yuanhe Power Station, etc.

CEEG 中电电气
Delivering Premium Power To The World

SGBH19 series
Open Ventilated Dry Type Transformer

High Efficiency Energy-saving
Superior Insulation
Green and Environmentally Friendly



Product Introduction

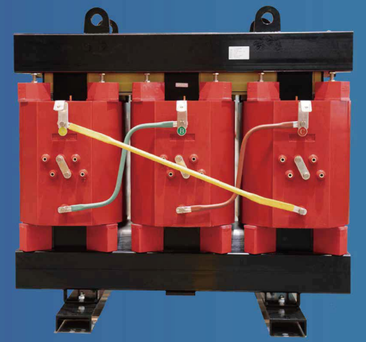
1. Complies with GB 20052-2020 energy efficiency standards, a new generation of Class 1 energy-efficient products.
2. Utilizes high-quality amorphous alloy strip, reducing no-load losses by 60% and achieving significant energy savings.
3. Adopts a self-developed three-phase three-column structure, allowing for easy assembly and occupying a small footprint.
4. Incorporates a unique iron core mounting technology, resulting in low mechanical stress and reduced noise.
5. Adopts DuPont Nomex® insulation system, ensuring high insulation heat resistance.
6. Excellent flame resistance, and strong overload capacity.
7. Equipped with intelligent transformer terminals and integrated with IoT cloud platform for smart operation and maintenance.

Implementation standards

1. GB 20052-2020 Limits and energy efficiency grades for power transformers
2. GB/T 1094.1-2013 Power transformers - Part 1: General
3. GB/T 1094.3-2017 Power transformers - Part 3: Insulation levels, Dielectric tests, and External clearances in air
4. GB/T 1094.5-2008 Power transformers - Part 5: Ability to withstand short-circuit
5. GB/T 1094.11-2022 Dry type transformers
6. GB/T 1094.12-2013 Power transformers - Part 12 Load Guide for dry power transformers
7. GB/T 22072-2018 Dry amorphous alloy iron core distribution transformer technical parameters and requirements
8. GB/T 1094.10-2003 Power transformers - Part 10: Determination of sound levels

SCBH series Amorphous Alloy Dry Type Transformer

Three-phase Three-column
Energy-saving Pioneer



Product Introduction

1. Adopts high-quality amorphous alloy strip, reducing no-load losses by approximately 70%.
2. Use a self-developed three-phase three-column structure, occupying a small footprint.
3. Simulation analysis on the vibration model to reduce noise effectively. Unique core mounting technology and end sealing process to ensure low core stress and low noise.
4. Utilize a unique semi-enclosed structure with strong dustproof ability and high insulation performance.
5. High mechanical strength, strong waterproofing and short-circuit resistance capabilities.

Scope of Application

Suitable for places under distribution grid with low efficiency, the place with flammability & explosive character, or the area with high requirement for flame-resistance , such as cloud computing data centers, rural power grids, high-rise buildings, commercial centers, subway systems, airports, power plants, etc.

Reference

China Telecom, China Mobile, China Unicom, People's Liberation Army of China (specific unit), Huawei Hubei Research Institute Data Center (IDC), Daqing Zhonglan Petrochemical Co., Ltd., Beijing Mining and Metallurgy Research Institute, etc.

S(B)H-M series Oil-immersed Type Amorphous Alloy Distribution Transformer

Domestic Pioneer in Production Assembly Line

Product Introduction

1. Produced using a constant temperature, humidity, and dust-free fully enclosed manufacturing process.
2. Utilizes high-quality amorphous alloy strip, resulting in a reduction of approximately 60% in no-load losses compared to previous models.
3. Manufactured using the automated corrugated tank production line from Germany's Jörg, automatic forming a tank, and ensuring leakage-free tanks.
4. Adopts a fully vacuum oil-injection process online, resulting in high insulation performance and low partial discharge.
5. Utilizes fully automated testing equipment for product testing, with automatic comparative analysis of results.
6. Pioneered the SH15-M-6300/35 amorphous alloy transformer, successfully passing routine, special, type tests, short-circuit tests, in a single attempt.

Scope of Application

Suitable for the upgrading and reconstruction of agricultural grid and urban grid, as well as large-scale data computing centers.

Reference

Beijing Northern Energy Saving and Environmental Protection Co., Ltd., Tianjin Power Company, Shaanxi Power Company, Liaoning Power Company, Beijing Chaoyang Electric Power Engineering Company, Shenshuo Railway Branch, Nanjing China Post Air Express Logistics Distribution Center Phase II Apron Construction Project, etc.

S series Transformer

Low Noise　Low partial Discharge
Customized　Low Temperature Rise
Short-circuit Withstand Capability
Impulse Withstand Capability

Product Introduction

The Class-one S22/Class-two S20/Class-three S13 series oil-immersed type transformers combine the traditional structure of oil-immersed type transformers with modern domestic and international oil-immersed type transformer structures. They feature a new insulation structure for power transformer.

Scope of Application

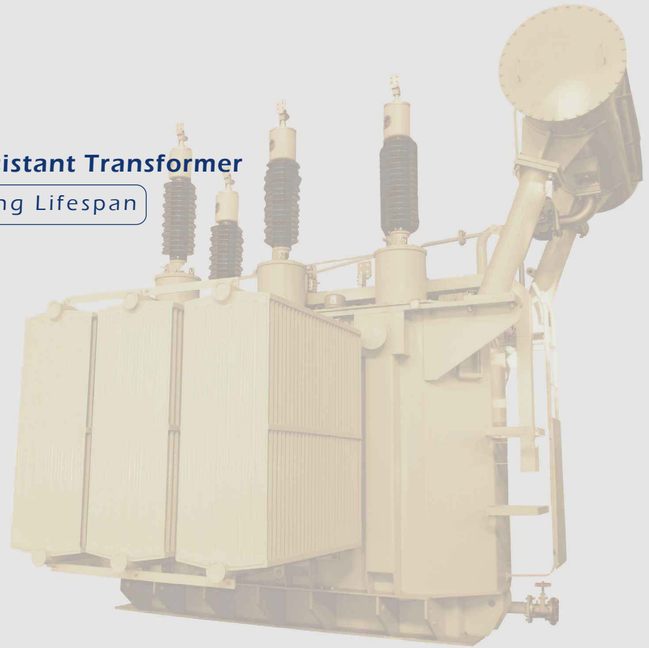
They are widely used in urban power grids, rural power grids, high-end power supply fields, as well as in industries such as steel, coal, chemical, cement, paper, and metallurgy.

Reference

Shougang Shuicheng Iron and Steel (Group) Co., Ltd., AVIC The Third Research Institute of China Electronics Technology Group Corporation (CETC), Wuxi Metro Line 1-4, Chongqing Metro Line 2, Nanjing Metro, Guangzhou Metro

SRN series High-temperature Resistant Transformer

High-temperature Resistant Long Lifespan



Product Introduction

1. Strong overload capacity: With DuPont Nomex® paper as the core and a seven-level temperature control technology, it utilizes a hybrid insulation system effectively.
2. Wide applicability: Suitable for industries operating in high ambient temperatures or under long-term high loads, providing safe and reliable power supply.
3. Low maintenance cost: It exhibits excellent oxidation resistance, slow aging rate, more stable mechanical characteristic and electrical properties, resulting in a long lifespan.
4. Energy-saving and environmentally friendly: After the end of its service life, the materials can be recycled and reused, without causing pollution.
5. Safety and reliability: It possesses strong corrosion resistance and water-proof properties, ensuring safe and reliable long-term operation.

Scope of Application

High-end power supply sectors and customers in industries such as steel, coal, chemical, cement, paper, and metallurgy.

Reference

Guangzhou-Zhuhai Railway Co., Ltd., Beijing Shougang International Engineering Technology Co., Ltd., Guiyang Urban Rail Transit Co., Ltd., Heilongjiang Longmei Mining Group Co., Ltd., Guizhou Shuicheng Coal Mining Co., Ltd., Chongqing Energy Group, Lanzhou Railway Bureau, Liaoning Provincial Electric Power Co., Ltd., Shandong Luneng Materials Group Co., Ltd., Weiqiao Textile Co., Ltd., Shanxi Provincial Electric Power Company, Shaanxi Provincial Electric Power Company, Northwest Power Grid Co., Ltd., etc.

Mobile Transformer on vehicles

CEEG Intelligent Manufacturing Safe and Efficient

Product Introduction

The mobile transformer developed by CEEG is of vital importance to the overall performance of mobile substations. Although there is only a slight difference in wording between "mobile transformer" and " mobile transformer for vehicles," the design concepts differ significantly. Conventional mobile transformer as emergency power sources and typically only require short-term energized operation for a few days, their operating characteristics cannot be compared to those of substations. In contrast, the "mobile transformer on vehicles" for mobile substations, as a core equipment, must not only meet the transportation requirements of various road conditions but also fulfill the energized operation needs of the mobile substation for several months or even one to two years, essentially aligning with the operating characteristics of a substation.

Since it is a mobile substation, after the lease expires, it needs to be transported and leased to other projects multiple times. Therefore, the technical requirements for the "Mobile transformer on vehicles" are higher than those of tradition ones. This type of transformer can be integrated into a flatbed trailer or transported as a whole using conventional transport vehicles, without the need for complicated approval procedures for specialized vehicles, completely replacing conventional mobile transformers.

Reference

Jiangyin Second Yangtze River Crossing, Yuanhe Power Station Co., Ltd., Beijing Beikong Environmental Protection Co., Ltd., Pinggao Group International Engineering Co., Ltd., Suzhou Zhongcai Construction Co., Ltd., Wuxi Metro Group Co., Ltd., etc.

Oil-immersed Type Converter Transformer

High Temperature Resistance
High Overload Capacity
Low Noise High Reliability

Product Introduction

Power conversion refers to the collective term for rectification, inversion, and frequency conversion, among which rectification is widely used. Most industrial rectifier DC power supplies are generated by rectifier transformers and rectifiers connected to the AC power grid. The electrochemical industry is the most common application of rectifier transformers, used for the extraction of aluminum, magnesium, copper, and other metals through the electrolysis of metal compounds, as well as the production of chlorine-alkali through the electrolysis of salt, and the production of hydrogen and oxygen through the electrolysis of water. The explosive growth of the hydrogen energy industry is driven by factors such as depletion of fossil energy, environmental degradation, and frequent extreme climate events.

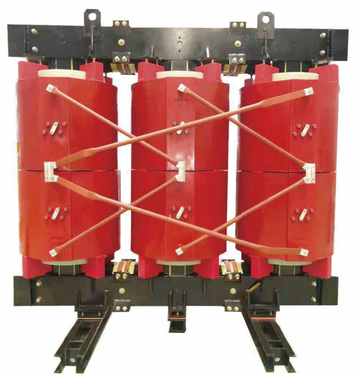
Hydrogen energy is a rich, green, and low-carbon secondary energy source, gradually becoming one of the important carriers in global energy transition. In the context of carbon peak and carbon neutrality goals, the combination of renewable energy sources such as photovoltaics, wind power, and hydropower with hydrogen production through rectifier equipment and water electrolysis technology can produce high-purity hydrogen and oxygen, leading to wider utilization in the global economy.

Product Performance

The oil-immersed rectifier transformers produced by CEEG have the characteristics of high temperature resistance, maintenance-free operation, high overload capacity, low noise, high reliability, lift-core free, leakage-free performance, and diverse product varieties. These features effectively improve electrolysis efficiency, reduce overall power consumption, and enhance operational reliability. The performance indicators meet or exceed the latest standards such as GB/T 18494.1-2014 and GB/T 18494.3-2012, demonstrating an advanced level among similar products in the domestic market.

Dry Type Converter Transformer

Professional Design Safe and Reliable



Product concept

Power conversion refers to the overall term for three working modes: rectification, inversion, and frequency conversion. Most of the rectifier and DC power supplies used in general industry, energy storage, photovoltaic, variable frequency speed regulation, subway railway traction, feed test, charging station and other places are generated by the rectifier equipment composed of transformer and rectifier in the AC power grid.

Product function

1. The power supply voltage on the AC grid side is stepped down (or stepped up) to meet the required AC valve side voltage for DC output.
2. Achieve electrical isolation between the DC side (AC valve side) and the AC grid side.
3. Convert the three-phase (or single-phase) AC power supply on the AC grid side into multi-phase AC power on the AC valve side to reduce the harmonic content on the AC grid side and improve the waveform of the DC voltage.

Product features

Core material: Optional choices include silicon steel or amorphous alloy strip.
Core structure: Optional choices include three-phase three-column or three-phase five-column.
Winding structure: Optional choices include axial split, radial split, or multiple windings on the valve side for multiple voltage outputs.
Insulation class: Optional choices include Class F or Class H.
Product process: Optional choices include epoxy resin casting process or vacuum pressure impregnation process.

SG series Dry Type Transformer

Safe Reliable Environmentally Friendly Energy Saving

Product Introduction

1. The product is rated as Class H insulation and Class C insulation materials, providing strong overload and short-circuit withstand capabilities and high safety performance.
2. High-quality high-permeability silicon steel is used with a multi-stage stepped process, resulting in low no-load losses.
3. Copper and silicon steel are recyclable, and the insulation materials are fully degradable, making it an environmentally friendly product.
4. DuPont ReliatraN® core technology is adopted, reducing the volume by 10% and saving materials by 10%.
5. Realizes full intelligent data collection and analysis, serving as an intelligent 'brain' for proactive operation and maintenance.

Scope of Application

1. Places with high population density such as shopping malls, residential areas, schools, hospitals, and entertainment venues that have strict safety requirements.
2. Locations with high energy consumption, high loads, susceptibility to overload, and uneven load distribution.
3. Harsh environments such as coal mines, nuclear power plants, and cement factories that have radiation hazards or high dust content.
4. Occasions that require high moisture resistance, resistance to salt spray, and corrosion protection.

Reference

National Olympic Sports Center Comprehensive Training Hall, Beijing Aerospace Times Laser Navigation Technology Co., Ltd., Chinese People's Armed Police Force, China University of Petroleum, Beijing Tiantan Hospital, and others.

Marine and Offshore Platform Transformer

Superior Insulation Seismic Resistance

Product Introduction

1. It adopts high-quality high-permeability silicon steel with multi-step process,resulting in low no-load losses.
2. The use of Nomex® paper insulation system for manufacturing marine transformers and offshore platform transformers is the first in China.
3. The transformer body adopts two kinds of process system: VPI (Vacuum Pressure Impregnation) process and epoxy vacuum casting process, both of which are applicable.
4. All fasteners and exposed conductive parts are treated with special processes to meet the requirements of waterproof, dustproof, and anti-corrosion.
5. The enclosure comes with a waterproof trough, with the highest protection level reaching IP44, ensuring safety and reliability.
6. It can adopt a combination of air cooling and water cooling, forming a hybrid air-water cooling structure, with strong overload capacity

Scope of Application

The scope of application for marine transformers includes bulk carriers, oil tankers, container ships, chemical tankers, LNG (liquefied natural gas) carriers, roll-on/roll-off (Ro-Ro) ships, passenger ferries, etc. They are also used in docks, offshore platforms, and other marine vessel-related products.

Reference

China Shipbuilding Industry Corporation (CSI) 712th Research Institute, Shanghai Zhenhua Heavy Industries Co., Ltd., Nantong COSCO Kawasaki Ship Engineering Co., Ltd., CNOOC (China National Offshore Oil Corporation) Shenzhen Branch, etc.

Cast Resin Transformer

Precision Manufacturing Perfect Quality

Product Introduction

1. High quality high permeability silicon steel with multi-stage stepping process leads to low no-load loss.
2. The surface adopting nano-paint & self-leveling process with low noise.
3. It has strong waterproof and short-circuit resistance, strong overload capacity, good electrical performance, safety and reliability.
4. Through the simulation analysis of electric field, temperature field and magnetic field, CEEG is the first company in China to pass KEMA's E2, C2 and F1 tests.
5. The product can adopt dual-mode structure scheme to meet the needs of different customer groups.
6. Special intelligent transformer solution and big data cloud diagnosis technology are adopted to be always online.

Product Category

10kV Series

1. Low loss, low partial discharge and low noise.
2. The product performance parameters are better than GB and IEC standards.
3. It is safe, flame-retardant, fireproof and pollution-free, and can be directly installed in the load center.
4. Maintenance free, convenient installation and low comprehensive operation cost.
5. Low temperature rise and high product reliability.
6. Stable structure and strong seismic capacity.
7. Moisture proof, corrosion-resistant, wide application range.

Scope of application: Strong adaptability to the product environment, especially suitable for the places where have seasonal load fluctuations or overloading cas.

35kV Series

1. Through the dynamic thermal stability simulation analysis, the winding structure is in reasonable arrangement and with strong short-circuit resistance.
2. Low loss, low noise and low partial discharge.
3. It can also operate under overload long time without air-cooling, with strong overload capacity.
4. Winding capacitance distribution is reasonable and impulse withstand ability is strong.
5. The product has the characteristics of flame retardant and self extinguishing, non-toxic and harmful gas generation, green and environmental protection.

Scope of application: densely populated and narrow urban substations, data centers, factories and mining enterprises.

Traction Rectifier Transformer

1. Low temperature rise, strong overload capacity and reliable operation under class VI load conditions.
2. The key technical parameters are well balanced, the load is evenly distributed, and the amount of non-characteristic harmonics is effectively reduced.
3. The coil adopts double split structure in axial with smoothly the output DC waveform.
4. High mechanical strength, good moisture resistance, partial discharge≤10pc.
5. Low noise , low electromagnetic radiation pollution.

Scope of application: Rail transit.

Reference

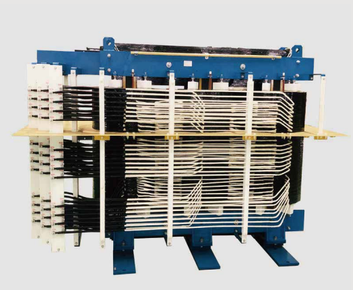
Olympic Center Gymnasium, Qingdao International Sailing Center, Beijing Urban sub center, Beijing Chang'an Street lighting project, Beijing Winter Olympics, China Iron and Steel Research Institute, Wuxi Metro, Nanjing Metro, Shanghai Disney Land, Shanghai Expo Exhibition Center, etc.

ZPSG Frequency Conversion Transformer

Protecting Motor Energy Saving Efficiency Enhancement

Product Introduction

1. The core adopts a core-positioning structure with multi-stage stepped process, ensuring no lateral or longitudinal displacement of the core under various operating conditions.
2. The winding adopts various structural types, providing strong short-circuit withstand capability.
3. It utilizes a dedicated air-cooling guiding system, achieving high heat dissipation efficiency and ensuring product safety and reliability.
4. The magnetic leakage distribution is reasonable, meeting the requirements of frequency converter.



5. Multiple technologies are employed to effectively suppress harmonic content, achieving harmonic-free performance and extending motor lifespan.
6. There are various structural types available to meet the requirements of different frequency conversion systems.
7. The product's maximum capacity can reach 9000kVA, enabling 72-pulse rectification.

Scope of Application

Suitable for use with high-voltage inverters, mainly in industries such as municipal water supply, power, metallurgy, petrochemicals, cement, coal, and others.

Reference

Siemens (Shanghai) Electrical Drive Systems Ltd., ABB Electrical Drive Systems Co., Ltd. (Beijing), Beijing Dynamic Source Technology Co., Ltd., Beijing Kangyi Sheng Frequency conversion Technology Co., Ltd., Jiangsu Lipu Electronic Technology Co., Ltd., Wuxi Fuji Electric Co., Ltd., Hefei Chunyan Electric Switch Co., Ltd., and others.

KBSG2-T Mining Explosion-proof Transformer
KBSGZY2-T Mining Explosion-proof Mobile Substation

National Patent Safety High Compression Strengh

Product Introduction

1. The unique full corrugated structure effectively improves the heat dissipation area, and has a national patent.
2. The cylindrical explosion-proof shell improves the strength of the shell, can withstand 1MPa pressure and has strong explosion-proof performance.
3. DuPont Nomex® Paper insulation system is adopted, which is more safe and reliable.
4. Adopting advanced design and processing technology, complete production and testing technology leading to more stable performance;
5. Low loss, low partial discharge, low noise and strong overload capacity.
6. Maintenance free, safe, flame-retardant, explosion-proof and fire-proof, pollution-free, and can be installed directly.

Scope of Application

It is widely used in power supply of underground devices in coal mines.

Reference

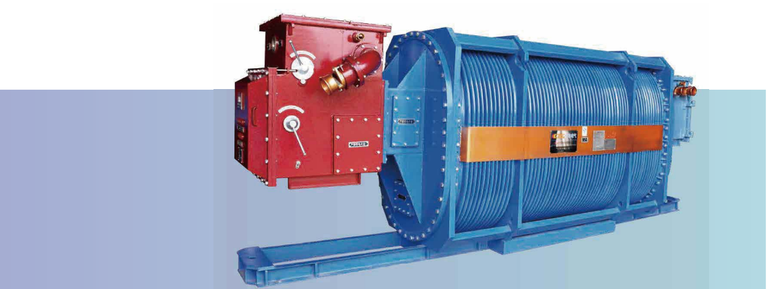
China Shenhua Group (including its subsidiaries), Datong Coal Mine Group Tongzhong Electric Co., Ltd., Shanxi Sanyuan Coal Industry group, Xinwen Mining Group, Shanxi China Resources Liansheng Energy Investment Co., Ltd., Inner Mongolia Beilian Power Energy Development Co., Ltd., etc.

KBZSGZY Mining Explosion-proof Converter Mobile Substation

Safe Reliable Environmentally Friendly

Product Introduction

1. The iron core adopts high-quality high magnetic conductivity silicon steel, full oblique joint and multi-stage stepping process, with low no-load loss.
2. The iron core adopts three-dimensional fastening structure. Under various working conditions, the iron core has no lateral and longitudinal displacement.
3. High and low voltage windings adopt a combined winding process, combined with VPI vacuum pressure impregnation and high-temperature curing, with high mechanical strength.
4. The shell adopts an oval structure, with low product height and short length, which is suitable for the space requirements of various mines.
5. The shell adopts the corrugated cylindrical structure of patented technology, with no ponding and dust on the top, good heat dissipation effect and strong explosion-proof performance.
6. It adopts the eight-point fastening method, which is firm and reliable and can go down the well vertically.
7. Nomex® paper insulation system is adopted, with thermal insulation up to Class C, recyclable, safe and environmental protection.
8. The integrated design scheme supplies power to the Flameproof Frequency Converter and communicates with the frequency converter to complete the functions of equipment operation status monitoring, fault breaking and centralized control.



Scope of Application

The product supplies power to the explosion-proof Frequency Converter and communicates with the frequency converter to complete the functions of equipment operation status monitoring, fault breaking and centralized control. It is widely used in coal mines to supply power to 1140V and 3300V explosion-proof Frequency conversion speed regulating devices with three-level technology.

Reference

China Coal Science and industry Tiandi (Jiyuan) electrical transmission Co., Ltd. (central enterprise), Qingdao Tianxin frequency conversion Co., Ltd., Liaoning Rongxin Electric Co., Ltd., Shenhua Ningxia Coal Industry Group Co., Ltd., Jincheng Lanyan Coal Industry Co., Ltd., Shenhua Xinjiang Energy Co., Ltd., etc

PBG/KBG High-voltage Vacuum Switch for Mine Explosion-proof Mobile Substation
BBD Low-voltage Protection Box for Mine Explosion-proof Mobile Substation

Advanced Craftsmanship
Aesthetically Pleasing and Durable

Product Introduction

1. The core control system consists of an industrial programmable logic controller (PLC) and a human-machine interface (HMI). It provides stable performance, precise protection, and simple maintenance.
2. The HMI displays operational status, power parameters, and faults, with a fully Chinese-language LCD interface.
3. Current can be continuously set with a stepping value of 1A.
4. It supports live maintenance, ensuring safe and reliable operation and maintenance.
5. It features a small size, reasonable structure, and intuitive operation.
6. It offers comprehensive protection functions, including overload, short circuit, overvoltage, undervoltage, leakage, leakage lockout, phase loss, overtemperature, wind power and gas lockout, and emergency stop for the upstream power supply. It also protects against faults feedback from the low-voltage side of the mobile transformer.
7. The PLC intelligent protection system includes self-checking, fault diagnosis, inspection, and memory functions. It provides real-time detection, digital display of operational status, and fault indication for ease of system use, maintenance, fault judgment, and handling.
8. It features a modular design and is equipped with standard RS232/485 communication interface for real-time monitoring and transmission of digital displays for operational status and fault indication. It can be integrated with the mine automation network to form a complete mine automation monitoring system.
9. All faults drive the high-voltage vacuum circuit breaker to disconnect through signal lines, reducing the breaking current.
10. The protection box has four circuits on two sides for output, meeting the connection requirements for multiple loads.

Scope of Application

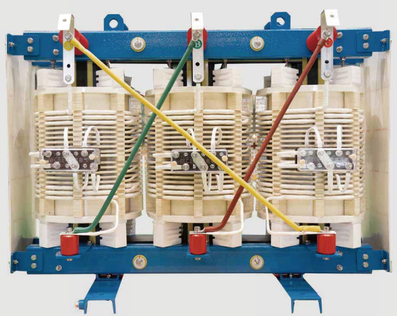
Widely used for underground device power supply in coal mines.

Reference

China Shenhua Group (including subsidiary companies), Datong Coal Mine Group Tongzhong Electric Co., Ltd., Chongqing Energy Investment Group Co., Ltd., Xuzhou Mining Group Co., Ltd

Energy Storage Dedicated Open Ventilated Dry Type Transformer

Safer Transformer Safer Energy Storage



Product Introduction

1. The winding adopts an open and ventilated structure, which provides excellent heat dissipation, strong overload capacity, and ensures transformer safety.
2. It utilizes DuPont Nomex® VPI (Vacuum Pressure Impregnation) insulation system, offering a compact structure and reasonable layout.
3. The transformer is capable of withstanding high temperatures up to 220°C and low temperatures down to -40°C, providing strong insulation performance to meet various energy storage environment requirements.
4. It possesses flame retardant and non-combustible characteristics, making it more suitable for user-side energy storage applications such as hospitals, smart parks, solar energy storage charging stations, data centers, ensuring worry-free energy storage.
5. Equipped with intelligent terminal for the transformer and utilizing an Internet of Things (IoT) cloud platform, it enables intelligent operation and maintenance.

Scope of Application

Suitable for user-side energy storage applications such as hospitals, smart parks, solar energy storage charging stations, data centers, and more.

Implementation standards

1. GB 20052-2020 Limits and energy efficiency grades for power transformers
2. GB/T 1094.1-2013 Power transformers - Part 1: General
3. GB/T 1094.3-2017 Power transformers - Part 3: Insulation levels, Dielectric tests, and external clearances in air.
4. GB/T 1094.5-2008 Power transformers - Part 5: Ability to withstand short-circuit
5. GB/T 1094.10-2022 Power transformers - Part 10: Determination of Sound levels
6. GB/T 1094.11-2022 Power transformers - Part 11: Dry-type transformers
7. GB/T 1094.12-2013 Power transformers - Part 12: Load Guide for Dry-type power transformers
8. GB/T 10228-2015 Technical parameters and requirements of dry type power transformer

Energy Storage Dedicated Epoxy Dry Type Transformer

Safer Transformer Safer Energy Storage

Product Introduction

1. The installation and usage environment is harsh, requiring high-level protection against dust, moisture, and vibration.
2. Strong overload capacity and excellent resistance to thermal shock.
3. Strong ability to withstand harmonics.
4. Low self-loss and high efficiency.
5. Different high and low voltage terminals' input and output methods, with a compact structure.
6. Various requirements for capacity, voltage, and impedance.

The energy storage system dedicated dry type transformer, developed and produced using advanced technology, possesses highly reliable quality and offers excellent cost-effectiveness.

Implementation standards

1. GB 20052-2020 Limits and energy efficiency grades for power transformers
2. GB/T 1094.1-2013 Power transformers - Part 1: General
3. GB/T 1094.3-2017 Power transformers - Part 3: Insulation levels, Dielectric tests, and external clearances in air.
4. GB/T 1094.5-2008 Power transformers - Part 5: Ability to withstand short-circuit
5. GB/T 1094.10-2022 Power transformers - Part 10: Determinations of Sound levels
6. GB/T 1094.11-2022 Power transformers - Part 11: Dry-type transformers
7. GB/T 1094.12-2013 Power transformers - Part 12: Load Guide for Dry-type power transformers
8. GB/T 10228-2015 Technical parameters and requirements of dry type power transformer

Energy Storage Dedicated Oil-Immersed Type Transformer

Safer Transformer Safer Energy Storage

Structural advantages

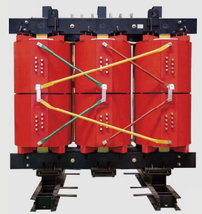
1. The core structure has been changed from the traditional long circular core to a quasi-elliptical core structure. It has been validated through sudden short-circuit tests conducted by the Shenyang Transformer Research Institute, enhancing the ability of the new energy transformer to withstand sudden short-circuits.
2. High-density laminated wood is used as the spacer material. By changing the outlet way the copper busbars, the width of the internal oil tank has been significantly reduced, resulting in a more compact overall structure. This also has a certain inhibitory effect on stray losses caused by leakage magnetic fields.
3. The internal body positioning and switch installation methods have been modified, replacing the high-voltage elevation outlets with a new structure without hand holes, reducing the risk of oil leakage.

Quality control advantages

1. From the perspective of product quality, following the testing methods specified in GB/T 7354, we have intensified the assessment by conducting partial discharge tests on each new energy transformer. The aim is to ensure that the partial discharge level at 1.2 times the rated voltage (1.2Ur) is ≤50pC and at 1.4 times the rated voltage (1.4Ur) is ≤100pC (Ur represents the rated voltage of the transformer).
2. For products of the same model and batch, a sample size of 10% (>1 unit) is selected for lightning impulse tests and temperature rise tests. This further ensures the electrical insulation and mechanical performance of the products.
3. Based on the magnitude and frequency of the harmonic current injected into the transformer as provided by the user, due consideration is given to the losses caused by harmonic currents. This is done to prevent excessive temperature rise in the top layer of the transformer oil and windings. Additionally, the increased capacitance demand caused by harmonic currents is taken into account, ensuring the lifespan of the transformer.
4. According to user requirements and considering the operational environment on-site, the transformers are subjected to anti-corrosion treatment in strict accordance with the requirements of ISO 12944.

Hydrogen-specific Rectifier Transformer

Hydrogen Power in Action Electrifying Green Energy



Product Introduction

Power conversion is a general term for the three modes of operation: rectification, inversion, and frequency conversion, with rectification being the most widely used. Most industrial rectifier power supplies are generated by rectification equipment composed of rectifier transformers and rectifiers, which are connected to the AC power grid. The electrochemical industry is the most prominent user of rectifier transformers, such as for the production of aluminum, magnesium, copper, and other metals through the electrolysis of metal compounds; the production of chlorine and alkali through the electrolysis of salt; and the production of hydrogen and oxygen through the electrolysis of water. The depletion of fossil energy, worsening ecological environment, and increasing occurrence of extreme climate events have driven the explosive growth of the hydrogen energy industry.

Hydrogen energy is a rich, green, and low-carbon secondary energy source, gradually becoming one of the important carriers for global energy transition. Under the requirements of carbon peak and carbon neutrality, combining renewable energy sources such as photovoltaics, wind energy, or hydropower with hydrogen production through rectification equipment and electrolysis of water allows for the production of high-purity hydrogen and oxygen. This will lead to broader utilization in the global economy.

Performance characteristic

1. Safety and reliability: The transformer is filled with non-toxic, flame-retardant epoxy resin, which provides high mechanical strength, flame resistance, and no pollution.
2. Convenient installation: Dry type rectifier transformers are delivered as a complete unit, ready for operation upon placement, ensuring convenience and efficiency.
3. High overload capacity: The maximum overload capacity can reach 200%.
4. Low noise: The noise level is reduced by 3 to 5 dB compared to the national standard.
5. Cost-saving: Dry type rectifier transformers can be installed together with rectifiers and other electrical equipment, eliminating the need for separate design of power distribution rooms. This saves space and reduces initial investment.
6. Customization: Flexibly designed and quickly responsive according to specific customer requirements.
7. Authoritative certification: Certified by the National Electrical Products Quality Supervision and Inspection Center.

Energy Storage Step-up Substation integrated with Converter (Dry Type Transformer)

New Energy Flexible Electricity Green Power

Product Introduction

1. Turn-key Solution
a.Integrated photovoltaic inverter, transformer, and switchgear in one unit, factory-tested as a whole, saving installation and commissioning time on-site.
b. The enclosure adopts a container design, eliminating the need for special lifting equipment, making transportation and installation convenient.
2. Strong Environmental Adaptability
a. Strong corrosion resistance: The enclosure is containerized and made of high-weathering steel plate. High-weathering steel has stronger corrosion resistance than ordinary carbon steel.
b. Thermal insulation: Insulation boards are installed inside the enclosure, providing good fire resistance, insulation, and thermal insulation.
c. Ventilation and heat dissipation: The air inlet is specially designed to effectively prevent dust and sand.
3. High Reliability and Safety
a. Adoption of epoxy resin cast dry type transformer, which is a flame-retardant product, eliminating the risk of explosion and fire.
b. The dry type transformer has passed the C2E2 and F1 tests conducted by the National Transformer Quality Supervision and Inspection Center.

4. Low Investment, High Returns
Compared to the conventional 'inverter room + PV transformer cabinet' solution, the investment is reduced by 15% to 20%. The numbers of installation foundation are reduced from 2 to 1. Installation and commissioning time is reduced by 50%. Inverter and transformer are connected using copper busbars, eliminating the need for cables between the inverter room and PV transformer cabinet. Structural optimization saves two low-voltage switchgear cabinets between the inverter and transformer.
5. The product solution is flexible and diverse, completely tailored to meet the customer's actual needs, providing a satisfactory one-stop solution.

Energy Storage step up substation intergrated with Converter (Oil-immersed Type Transformer)

New Energy Flexible Electricity Green Power

Product Introduction

The energy storage boosting and conversion integrated machine has a high-voltage side voltage ranging from 6kV to 35kV, and the low-voltage side AC voltage of the transformer covers 0.315kV to 0.69kV. The transformer includes various models of oil-immersed, dry type, and Huabian (China) transformers. The energy efficiency grade meets the design requirements, and the maximum DC voltage on the direct current side can reach up to 1500VDC. The stand-alone capacity of the Energy Storage substation can reach up to 6.8MW.

The energy storage system can be connected to the grid as an independent system, playing a role in peak shaving, valley filling, and reactive power compensation. The energy storage system can also be combined with new energy generation to form a wind-solar energy storage system, smoothing the power output from renewable sources to the grid. Moreover, the energy storage system can be integrated with wind power, solar power, and other renewable energy systems, forming a microgrid system at the load center, which improves energy utilization efficiency, enhances power quality, increases power supply reliability, and promotes green and environmental-friendly practices. By optimizing the configuration of batteries, inverters, bidirectional converters, wind and solar equipment, we can provide engineering consulting, design, system integration, and station-level monitoring for energy storage systems, wind-solar energy storage systems, and energy storage microgrid systems.

Referrnce

Qinghai Geermu 100MW200MW Project, State Power Investment Corporation's 20MW Photovoltaic Energy Storage Project, Ronghe Yuan Shandong Peninsula Yantai Haiyang 15MW Energy Storage Project, Guoxuan High-Tech Energy Storage Project, Shanghai Electric Jinchang Energy Storage Project, Ganghua Era User-Side Energy Storage Project, JD.com Energy Storage Project, Ningxia Muhe Energy Storage Project, and others.

ZGS series Prefabricated Substation

Modular Manufacturing

Scope of Application

It is widely used in various power transformation and distribution places such as industrial parks, residential quarters, commercial centers and high-rise buildings.

Reference

Beijing Gongke Feida Transportation Engineering Development Co., Ltd., Inner Mongolia Xilin Gol Baiyinhua Coal Power Co., Ltd., Jiangsu Huaxi Group Co., Ltd., Zibo Mining Group material supply Co., Ltd., Anqing Hengjiang industry (Group) Co., Ltd., Gezhouba Group Power Co., Ltd., Qinghai Upper Yellow River Hydropower Development Co., Ltd., etc.

Product Introduction

1. The product has the advantages of compact structure, small volume, short construction cycle and easy installation and movement.
2. The shell adopts fully sealed design, with good protection effect.
3. The substation adopts unique guiding ventilation technology, with good heat dissipation effect and strong overload capacity.
4. Various power supply schemes of terminal or ring network can be adopted, with long service life and maintenance free.
5. Dry type, oil type, amorphous alloy and other types of transformers can be configured according to user requirements, and the schemes are flexible and diverse.
6. CT, PT, protection and communication devices can be installed at the high-voltage side, and multi-functional intelligent instruments for acquisition and protection can be installed at the low-voltage side, so as to realize the "three remotes" of high-voltage and low-voltage switches and transformers.
7. LED display screen can be installed on the surface of the shell to scroll all kinds of information, which is beautiful, environmentally friendly and economical.
8. It can realize fully intelligent data acquisition and analysis, realize active operation and maintenance, and provide energy management for various scenarios.

YB series Prefabricated Substation

Modular Manufacturing

Product Introduction

1. YB series prefabricated substation is a complete set of indoor and outdoor power transformation and distribution equipment composed of high-voltage switchgear, power transformer and low-voltage switchgear.
2. The product is a frame structure, which is welded with section steel or assembled from steel plate. The frame is covered with special paint layer, which has strong mechanical properties, weather resistance and corrosion resistance.
3. The top of the prefabricated substation is provided with a thermal insulation layer to prevent condensation caused by rapid temperature change. A thermal insulation layer can be added around the box.
4. YB series prefabricated substation is to install the secondary system (including telecontrol) of the substation into one or several movable, fully enclosed, moisture-proof and anti-corrosion boxes after installation and commissioning in the factory. After one-time installation in the factory, the box is transported to the site. Only the corresponding foundation and one-time connection are needed to transmit power.
5. It can realize fully intelligent data acquisition and analysis, realize active operation and maintenance, and provide energy management for various scenarios.
6. CT, PT, protection and communication devices can be installed at the high-voltage side, and multi-functional intelligent instruments for acquisition and protection can be installed at the low-voltage side, so as to realize the "three remotes" of high-voltage and low-voltage switches and transformers.

Scope of Application

In places without fire, explosion, chemical corrosion and violent vibration, the ground inclination shall not exceed 5°.

Reference

Beijing Olympic Doping Testing Center, Beijing Lvqi Kechuang Technology Co., Ltd., Qingdao International Sailing Center of the 29th Olympic Games of Qingdao East Olympic Development & Construction Group, 96201 Unit, 4822 plant of the Chinese people's Liberation Army, Wuhan Branch of China Petrochemical Corporation, State Grid Smart Grid Research Institute, Xinjiang Meihua Amino Acid Co., Ltd. and Sinopec (Hong Kong) Hainan Petroleum Co., Ltd., China Railway 14th Bureau Group Co., Ltd., etc.

Prefabricated Containerized Intelligent Substation

Precision Craftsmanship Perfect Quality

Product Introduction

The containerized enclosure features standardized design, factory-customized distribution, on-site modular construction, and the use of modular and combinable electrical equipment. It includes transformers, high-voltage switchgear and control equipment, internal wiring of low-voltage switchgear and control equipment, metering, compensation, surge arresters, and other auxiliary devices, configured within a common enclosure or a group of enclosures. There are multiple options for the enclosure, allowing for non-metallic or containerized selection based on specific needs. The equipment, following relevant standards, undergoes debugging and testing to form a complete substation.

Product Features

1. Factory production
2. Modular transportation
3. Convenient on-site installation
4. Small footprint
5. Short construction period
6. Low operation and maintenance costs
7. Fully enclosed, long service life, strong weather resistance

Reference

Zimbabwean Export Project

YBF series Wind Power Substation

Professional Design Safe and Reliable

Product Introduction

1. Good sealing performance, wind and sand proof, salt fog proof, rain and snow proof.
2. Advanced electric spray-coating technology, the shell is not easy to rust and fade.
3. The shell has strong adaptability to the environment, which can be selected according to different environments. It has the advantages of beautiful appearance and coordination between the shape & the windmill site.
4. Intelligent control, which can not only be controlled locally, but also be monitored remotely to realize the four remote functions.
5. Natural ventilation. The substation is equipped with sufficient natural ventilation and thermal insulation measures. When the ambient temperature is close to 40 ℃, forced ventilation will be started to ensure the normal operation of step-up transformer.

Scope of Application

Windmill power plant. YBF series windmill power substation is a special equipment for grid connected output after raising the 0.6-0.69kV voltage sent by windmill power generator to 10kV or 35kV.

Reference

Inner Mongolia Ximeng zheligentu wind farm phase I, Saihan project of Beijing International Power New Energy Co., Ltd., zheligentu project, Gansu Xinquan Wind Power Co., Ltd., Huaneng Tianzhen Wind Power Co., Ltd., Dafeng Wind Power Co., Ltd., National Electricity Yunnan New Energy Co., Ltd., Jiangxi SPIC New Energy Power Generation Co., Ltd, Datang Zhangzhou Wind Power Generation Co., Ltd., Huaneng Fuxin Wind Power Generation Co., Ltd., etc.

KYN28A series/ASZ1 series Armored Movable AC Metal-enclosed Switchgear

Reasonable Structure Safe and Reliable

Product Introduction

1. Equipped with ABB-produced VD4 vacuum circuit breaker or domestically produced VS1 vacuum circuit breaker.
2. Cabinet structure adopts fully assembled method.
3. Sufficient space in the cable compartment allows for the connection of multiple cables, making installation and maintenance convenient.
4. Cabinet can be reliably wall-mounted, reducing floor space occupation.
5. Excellent interchangeability of handcart.
6. Passed all type tests and full-load tests.
7. Equipped with interlocking functions to prevent pushing and pulling of circuit breaker handcart with load, prevent misoperation of circuit breaker, prevent closure of circuit breaker when grounding switch is closed, prevent accidental entry into live isolation compartment, and prevent accidental closure of grounding switch when energized.

Scope of Application

The seismic intensity does not exceed 8 degrees, there are no fires, no explosion hazards, and no severely polluted or intensely vibrating areas. It is mainly used for power plants, power transmission of medium and small generators, power distribution in industrial and mining enterprises, and power reception, transmission, and large high-voltage motor starting in the secondary substations of the power system, implementing control, protection, and monitoring.

Reference

China Construction International Engineering Co., Ltd., Mengniu Dairy (Chabei) Co., Ltd., Guizhou Shuicheng Mining Co., Ltd., Offshore Petroleum Engineering (Zhuhai) Co., Ltd., China Coal Pingshuo Coal Industry Co., Ltd., China Railway 12th Bureau Group Electrification Engineering Co., Ltd., etc.

GGD, MNSZ, GCK, and GCS series are AC Low-voltage Switchgear Cabinets used for Power Distribution, lighting, metering, and other purposes

Modular Design with Good Scalability

Product Introduction

1. MNSZ low-voltage draw-out switchgear is a combination type low-voltage switchgear equipped with standard modular units. It is suitable for power distribution systems with an AC frequency of 50 (60) Hz and a rated operating voltage of 380V and below. It is used for the control of power generation, transmission, and electrical energy-consuming equipment.

2. GCK series draw-out switchgear is used in AC systems with a rated frequency of 50Hz and a voltage of 380V and below. It is used for power supply, feed, reactive power compensation, centralized control of electrical energy, and motors.

3. GCS low-voltage draw-out switchgear serves as a complete set of low-voltage distribution equipment for three-phase AC systems with a frequency of 50Hz, a rated operating voltage of 380V, and a rated current of 4000A and below. It is used for power distribution, centralized control of motors, reactor current limitation, and reactive power compensation.

4. GGD type AC low-voltage distribution cabinets are suitable for distribution systems with an AC frequency of 50Hz, a rated operating voltage of 380V, and a rated operating current of up to 6300A. They are used for the conversion, distribution, and control of electrical energy for power, lighting, and distribution equipment.

Scope of Application

Suitable for industries such as power plants, petrochemicals, metallurgy, textiles, high-rise buildings, and others, it is applied in large-scale power plants, petrochemicals, and similar places with high levels of automation and requirements for computer interfaces.

Reference

Beijing Guodian Electric Power Engineering Installation Co., Ltd., Beijing Guodian Tongfang Electric Power Construction Engineering Co., Ltd., Tongcheng State Grid Electric Equipment Co., Ltd., China Sea Network Technology Service Co., Ltd., Zhongzi Technology Traffic Engineering Co., Ltd., Xianju Jiuzhou Tong Pharmaceutical Co., Ltd.

03

SERVICE NETWORK

CEEG 中电电气

Delivering Premium Power To The World

After more than 30 years of development, CEEG has successively obtained the ISO9001 Quality Management System Certification, IS014001 Environmental Management System Certification, and OHSAS18001 Occupational Health and Safety System Certification, CNAS test authority. It has also passed the 3C, UL, and EU product characteristic tests, as well as multiple product certifications such as IEC, CE, and TUV.

CEEG Customer Service Hotline (025-52095855 15301592833) serves as an information communication and customer response platform. We are committed to providing feedback on customer opinions and suggestions within 24 hours. For urgent requirements such as customer maintenance and installation guidance, our sales service network covering the globe will provide immediate support and response.