

CHENGDU
SPOR
TECHNOLOGY
CO., LTD.

高低压成套产品选型

HIGH AND LOW VOLTAGE
COMPLETE PRODUCT SELECTION

成都四博科技有限公司

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成都四博科技有限公司

CHENGDU SPOR TECHNOLOGY CO., LTD.

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Be Innovative And Seize The Future



成都四博科技有限公司成立于2005年，是一家集研发、制造、销售、安装、施工、检修于一体的高新技术企业。公司拥有雄厚的技术力量，完善的研发体系，先进的生产设备，齐全的检测流程，过硬的产品质量，并一直坚持以市场为导向为客户提供更优质的服务。

公司产品包括：高低压电气成套设备、成套电气控制柜、变压器、母线、箱式变电站、充电桩、户外高压真空断路器、钣金配套等。

CHENGDU SPOR TECHNOLOGY CO., LTD.

勇于创新 把握未来

Since
公司成立于
2005

企业自成立以来，以“人诚品优，开拓无限”为企业理念，努力提高企业的管理水平，严格控制产品质量。企业先后通过了ISO9001质量体系认证，拥有GGD、XM、XMJ、KFM、GCJ、XL-21、YBW-12、SCB14-2000、S11-M-630等各项第三方检测报告，曾多次被评为四川省重质量，讲诚信-质量合格示范单位，被授予四川省“质量诚信标杆企业”称号。

企业本着“勇于创新，把握未来”的研发理念，不断开发和完善产品结构。企业先后与国内外知名企业：施耐德、ABB、西门子、德力西、正泰、天正等优秀电气公司建立了长期合作关系，同时也加强了与国内多所重点院校和科研院所之间的业务联系和技术协作。

公司始终坚持以“精诚合作，共铸辉煌”为企业宗旨，以高质量的产品，优惠的价格，完善的售前售后服务与广大用户真诚合作，谋求共同发展。在此，欢迎各界朋友莅临成都四博科技有限公司参观、指导和业务洽谈。

Chengdu spor Technology Co., Ltd. was established in 2005, is a research and development, manufacturing, sales, installation, construction, maintenance in one of the high-tech enterprises.

The company has strong technical force, perfect R & D system, advanced production equipment, complete testing process, excellent product quality, and has been adhering to the market-oriented to provide customers with better service.

The company's products include: complete sets of high and low voltage electrical equipment, complete sets of electrical control cabinets, transformers, bus bars, box-type substations, charging piles, outdoor high voltage vacuum circuit breakers, sheet metal matching, etc.

Since its establishment, the enterprise philosophy of "people sincere quality, open up unlimited", and strive to improve the management level of enterprises, strict control of product quality. The company has passed ISO9001 quality system certification, with GGD, XM, XMJ, KFM, GCJ, XL-21, YBW-12, SCB14-2000, S11-M-630 and other third-party testing reports, has been rated as Sichuan Province quality, integrity and quality qualified demonstration unit for many times. Awarded the title of "Quality and Integrity Benchmarking Enterprise" in Sichuan Province.

Enterprise spirit of "innovation, grasp the future" research and development concept, and constantly develop and improve the product structure.

The company has established long-term cooperative relations with well-known enterprises at home and abroad: Schneider, ABB, Siemens, Delixi, Chint, Tianzheng and other excellent electrical companies, and has also strengthened business ties and technical cooperation with a number of key universities and research institutes in China.

The company has always adhered to the "sincere cooperation, create brilliant" as the enterprise purpose, with high quality products, preferential prices, perfect pre-sales and after-sales service and the majority of users sincere cooperation, seeking common development. Here, welcome friends from all walks of life to visit Chengdu Sibotech Technology Co., Ltd. to visit, guidance and business negotiations.



8 项 Items 12 项 Items
专利认证证书 Patent Certification
产品实验报告 Product Lab Report



Sincere Cooperation, Jointly Cast A Brilliant Tomorrow

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在电气车间的每一个角落，电流如同生命的脉动，穿梭于精密的仪器与错综复杂的线路之间。这里，是智慧与技术的熔炉，每一件电气设备都凝聚着工程师们的匠心独运。

我们以严谨的态度，确保每一道工序的精准无误，以创新的精神，推动电气技术的边界不断扩展。在电气车间，我们不仅是电流的驾驭者，更是未来光明的铸造者。

在这里，每一次开关的闭合，都是对效率的追求；每一次电路的优化，都是对安全的承诺。电气车间，是现代工业的心脏，跳动着的，是无限可能的节奏。

In every corner of the electrical workshop, the electric current is like the pulse of life, shuttling between the precision instruments and intricate lines. Here is the melting pot of wisdom and technology, and every piece of electrical equipment is cohesive with the ingenuity of the engineers.

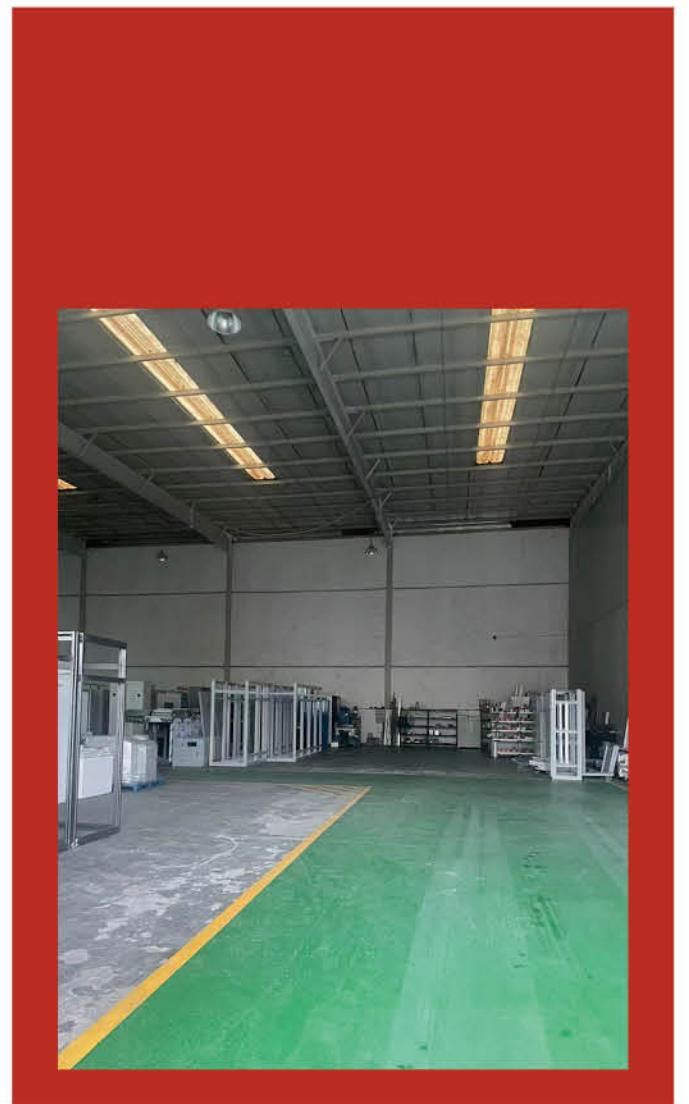
We ensure the accuracy of each process with a rigorous attitude, and promote the expansion of the boundaries of electrical technology with the spirit of innovation. In the electrical workshop, we are not only the driver of electric current, but also the maker of future light.

Here, every switch closure is the pursuit of efficiency; every circuit optimization is the promise of safety. Electrical workshop, is the heart of modern industry, beating, is the rhythm of infinite possibilities.

CHENGDU SPOR
TECHNOLOGY CO., LTD.

精诚合作 共铸辉煌

Sincere cooperation to
create brilliant





People Sincere Quality, Open Up Unlimited

CHENGDU SPOR
TECHNOLOGY CO., LTD.

01 油浸式电力变压器系列

OIL-IMMersed POWER
TRANSFORMER SERIES

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DRY TYPE POWER
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OIL-IMMersed POWER
TRANSFORMER SERIES

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SERIES

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10kV S13/S18/S22

油浸式配电变压器

Oil-Immersed Distribution Transformer

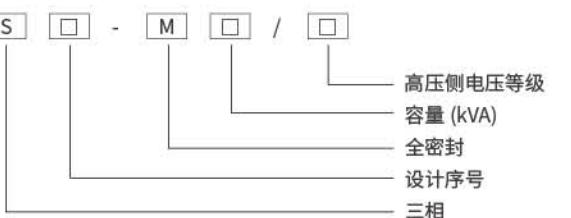


S13、S18、S22 系列型全密封油浸式变压器适用于交流 50Hz、额定工作电压 20kV 及以下的电力系统中，作为石油、冶金、化工、纺织、轻工等企业及粉尘较大场所的配电变压器。

S13, S20, S22 series of fully sealed oil-immersed transformers are suitable for AC 50Hz, rated working voltage 20kV and below in the power system, as petroleum, metallurgy, chemical, textile, light industry and other enterprises and large dust places of the distribution transformer.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model meaning



高压侧电压等级
High voltage side voltage level
容量 (kVA)
Capacity (kVA)
全密封
Complete seal
设计序号
Design sequence number
三相
Three phase

产品特点 Characteristics of the product

● 铁芯

铁芯选用高导磁晶粒取向冷轧硅钢片。铁芯为新式铁芯，全斜接缝迭积式铁芯，其铁芯柱为多级阶梯的圆截面，铁轭与铁芯为等截面。

● 绕组

绕组采用瓦楞油道，不浸漆工艺，紧缩带绑扎；绕组均为同心式线圈：高压绕组具有对应分接电压要求的抽头，引至分接开关上，开关安装在箱盖上、且需切断电源后方可变换分接电压。

● 安全保护装置

30~2000kVA 变压器装有压力释放阀；
根据用户需求可安装具有报警和跳闸端子的气体继电器；

● 油温测量装置

变压器均装有玻璃温度计的管座，管座设在油箱顶部，伸入油内 120±10mm；
1000~2000kVA 变压器装有户外式信号温度计；

● 变压器油箱

变压器油箱由波纹壁构成，表面采用粉尘喷涂、漆膜牢固。波纹散热片不但具有冷却功能，而且具有“呼吸”功能，波纹散热片的弹性可补偿因温度升降而引起的变压器油体积的变化。因此全密封变压器没有储油柜，降低了变压器整体高度；
变压器在封装时采用真空注油工艺，完全去除了变压器中的潮气，变压器油不与空气接触。有效地防止氧气和水分侵入变压器而导致变压器绝缘性能下降和变压器油老化的可能，因此不定期进行油样试验；

· Iron core

The core is cold rolled silicon steel sheet with high permeability magnetic grain orientation. The iron core is a new type of iron core, full oblique joint stacking type iron core, the iron core column is a circular section of multi-stage steps, and the iron yoke and the iron core are equal sections.

· Winding

The winding adopts corrugated oil channel, no paint dipping process, and tight tape binding; The windings are concentric coils: the high voltage winding has a tap required for the tapping voltage, which is led to the tap-changer, the switch is installed on the box cover, and the power supply can be changed before the tapping voltage.

· Safety protection device

30~2000kVA transformer is equipped with pressure relief valve;
Gas relays with alarm and tripping terminals can be installed according to user requirements;

· Oil temperature measuring device

The transformer is equipped with a glass thermometer tube base, the tube base is located on the top of the tank, and extends into the oil 120±10mm;
1000~2000kVA transformer equipped with outdoor signal thermometer;

· Transformer tank

The transformer oil tank is composed of corrugated walls with dust surface Spray, paint film firmly. The corrugated heat sink not only has a cooling function, but also has a "breathing" function, and the elasticity of the corrugated heat sink can compensate for the change in the volume of transformer oil caused by the temperature rise and fall. Therefore, the fully sealed transformer has no oil storage tank, reducing the overall height of the transformer;
When the transformer is packaged, the vacuum oiling process is used to completely remove the moisture in the transformer, and the transformer oil does not contact with the air. It can effectively prevent the oxygen and moisture from invading the transformer and lead to the deterioration of the transformer insulation performance and the transformer oil aging, so the oil sample test is carried out from time to time.



S13-M 型 10kV 级 油浸式三相双绕组无励磁调压配电变压器技术参数

Technical parameters of S13-M 10kV oil-immersed three-phase double-winding unexcited voltage regulation distribution transformer

额定容量 Rated capacity (kVA)	高压 High tension (kV)	高压分接范围 High pressure tap range (%)	低压 Low pressure (kV)	S13-M		空载电流 No-load current %	短路阻抗 Short-circuit impedance (%)		
				电工钢带 Electrical steel strip					
				空载损耗 No-load loss W	负载损耗 Load loss W				
30				80	630	710	1.20		
50				100	910	100	1.04		
63				110	1090	1380	0.96		
80				130	1310	1380	0.96		
100				150	1580	1570	0.88		
125				170	1890	1850	0.88		
160				200	2310	2130	0.80		
200				240	2730	2530	0.80		
250				290	3200	2760	0.72		
315				340	3830	3470	0.72		
400	6			410	4520	3990	0.64		
500	6.3			480	5410	4880	0.64		
630	10	±2×2.5 ±5	0.4	570	6200		0.48		
800				700	7500		0.48		
1000				830	10300		0.48		
1250				970	12000		0.40		
1600				1170	14500		0.40		
2000				1360	18300		0.32		
2500				1600	21200		0.32		
3150				1905	25845		0.32		
4000				2280	30915		0.32		
5000				2695	36545		0.32		
6300				3200	43465		0.32		

注：尺寸仅供参考，以实际提供的图纸和尺寸为准。

Note: The dimensions are for reference only and are subject to the actual drawings and dimensions provided.

S18-M 型 10kV 级 油浸式三相双绕组无励磁调压配电变压器技术参数

Technical parameters of S18-M 10kV oil-immersed three-phase double-winding unexcited voltage regulation distribution transformer

额定容量 Rated capacity (kVA)	高压 High tension (kV)	高压分接范围 High pressure tap range (%)	低压 Low pressure (kV)	S18-M		空载电流 No-load current %	短路阻抗 Short-circuit impedance (%)		
				电工钢带 Electrical steel strip					
				空载损耗 No-load loss W	负载损耗 Load loss W				
30				65	455	430	1.20		
50				80	655	625	1.04		
63				90	785	745	0.96		
80				105	945	900	0.96		
100				120	1140	1080	0.88		
125				135	1360	1295	0.88		
160				160	1665	1585	0.80		
200				190	1970	1870	0.80		
250				230	2300	2195	0.72		
315				270	2760	2630	0.72		
400	6			330	3250	3095	0.64		
500	6.3			385	3900	3710	0.64		
630	10	±2×2.5 ±5	0.4	460	4460		0.48		
800				560	5400		0.48		
1000				665	7415		0.48		
1250				780	8640		0.40		
1600				940	10440		0.40		
2000				1085	13180		0.32		
2500				1280	13360		0.32		
3150				1905	25845		0.32		
4000				2280	30915		0.32		
5000				2695	36545		0.32		
6300				3200	43465		0.32		

注：尺寸仅供参考，以实际提供的图纸和尺寸为准。

Note: The dimensions are for reference only and are subject to the actual drawings and dimensions provided.



S22-M 型 10kV 级 油浸式三相双绕组无励磁调压配电变压器技术参数
Technical parameters of S22-M type 20kV oil-immersed three-phase double-winding unexcited voltage regulation distribution transformer

额定容量 Rated capacity (kVA)	高压 High voltage (kV)	高压分接范围 High pressure tap range (%)	低压 Low pressure (kV)	联结组标号 Join group label	S22		空载电流 No-load current (%)	短路阻抗 Short-circuit impedance (%)
					空载损耗 No load loss kW	负载损耗 Load loss kW		
30	20	±2×2.5 ±5	0.4	Dyn11 Yzn11 Yyn0	70	528/504	1.70	5.5
50					90	768/728	1.60	
63					110	912/872	1.50	
80					125	1096/1040	1.40	
100					145	1312/1256	1.30	
125					170	1584/1504	1.20	
160					205	1928/1840	1.10	
200					245	2280/2176	1.00	
250					290	2672/2544	0.96	
315					340	3200/3048	0.88	
400					415	3776/3592	0.80	
500					485	4512/4304	0.80	
630					585	5184	0.72	6.0
800					700	6272	0.64	
1000					830	8560	0.56	
1250					990	10000	0.56	
1600					1200	12080	0.48	
2000					1405	15280	0.48	
2500					1280	15270	0.32	
3150					1525	18615	0.32	5.5
4000					1825	22270	0.32	
5000					2155	26325	0.32	
6300					2560	31305	0.32	

注：尺寸仅供参考，以实际提供的图纸和尺寸为准。

Note: The dimensions are for reference only and are subject to the actual drawings and dimensions provided.

35kV

油浸式电力变压器

Oil-immersed power transformer



该系列产品在设计上比较先进，在材料、结构和工艺上进行了大幅度的改进和提高。高低压夹件采用钢拉带或上梁及侧梁拉紧，形成坚固的框架结构，增强铁芯夹紧力和耐受运输冲击能力。抗短路能力强，外观造型美观，运行可靠，损耗低，噪音小，达到国外同类产品先进水平。

The series of products in the design is more advanced, in the material, structure and process has been greatly improved and improved. The high and low pressure clamps are tightened with steel pull belts or upper and side beams to form a strong frame structure, which enhances the clamping force of the iron core and the ability to withstand transportation impact. Strong short-circuit resistance, beautiful appearance selection, reliable operation, low loss, low noise, to the advanced level of similar foreign products.



3C 认证
3C certification



漏电保护
Leakage protection



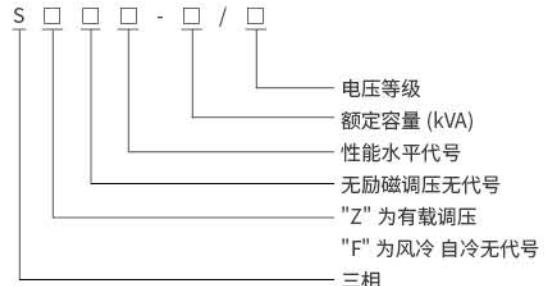
过载保护
Overload protection



耐冷热
Resistance to heat and cold



型号含义



Voltage level
 Rated capacity (kVA)
 Performance level code
 No excitation voltage regulation No code
 "Z" is for on-load voltage regulation
 "F" is air-cooled self-cooling without code
 Three phase

执行标准

GB 1094.1~2 《电力变压器总则》《油浸式变压器的温长》
 GB 1094.3 《绝缘水平、绝缘试验和外绝缘空气间隙》
 GB 1094.5 《电力变压器承受短路的能力》
 GB/T 6451 《油浸式电力变压器技术参数和要求》
 GB/T 15164 《油浸式电力变压器负载导则》
 GB2536 《变压器油》

GB 1094.1~2 "General Rules of Power transformers" "Temperature length of oil-immersed transformers"
 GB 1094.3 "Insulation level, insulation test and outer insulation air gap"
 GB 1094.5 "Capacity of power transformer to withstand short circuit"
 GB/T 6451 "Oil immersed power transformer technical parameters and requirements"
 GB/T 15164 "Load Guidelines for Oil-immersed Power Transformers"
 GB2536 "Transformer Oil"

S18型35kV油浸式电力变压器(50kVA~2500kVA三相双绕组无励磁调压配电变压器)技术参数

S18 type 35kV oil-immersed power transformer (50kVA~2500kVA three-phase double-winding non-exciting voltage regulation distribution transformer) technical parameters

额定容量 Rated capacity (kVA)	高压 High voltage (kV)	高压分接范围 High pressure tap range (%)	低压 Low pressure (kV)	联结组标号 Join group label	S18		空载电流 No-load current (%)	短路阻抗 Short-circuit impedance (%)
					空载损耗 No load loss kW	负载损耗 Load loss kW		
50	35	±2×2.5 ±5	0.4	Dyn11 Yyn0	130	1140/1080	1.00	6.5
					185	1910/1810	0.88	
					215	2250/2150	0.88	
					225	2680/2550	0.80	
					270	3150/3000	0.80	
					320	3750/3570	0.76	
					385	4510/4300	0.76	
					465	5450/5200	0.68	
					545	6560/6250	0.68	
					665	7470	0.52	
					785	8930	0.52	
					920	10900	0.52	
					1120	1320	0.48	
					1350	15800	0.48	
					1590	19700	0.44	
					1890	23200	0.44	

S20型35kV油浸式电力变压器(50~2500)三相双绕组无励磁调压配电变压器

S20 type 35kV oil-immersed power transformer (50~2500) three-phase double-winding non-exciting voltage regulation distribution transformer

额定容量 Rated capacity (kVA)	高压 High voltage (kV)	高压分接范围 High pressure tap range (%)	低压 Low pressure (kV)	联结组标号 Join group label	S20		空载电流 No-load current (%)	短路阻抗 Short-circuit impedance (%)
					空载损耗 No load loss kW	负载损耗 Load loss kW		
50	35	±2×2.5 ±5	0.4	Dyn11 Yyn0	105	1085/1025	1.00	6.5
100					150	1815/1720	0.88	
125					170	2140/2045	0.88	
160					180	2545/2425	0.80	
200					215	2995/2850	0.80	
250					255	3565/3390	0.76	
315					310	4285/4085	0.76	
400					370	5180/4940	0.68	
500					435	6230/5940	0.68	
630					530	7100	0.52	
800					630	8485	0.52	
1000					735	10355	0.52	
1250					895	12540	0.48	
1600					1080	15010	0.48	
2000					1270	18715	0.44	
2500					1510	22040	0.44	

注: 1、根据要求变压器的高压分接范围可供 ±2×2.5%。

2、其它容量的产品性能参数, 由用户与制造厂协商确定。

3、尺寸仅供参考, 以实际提供的图纸和尺寸为准。

Note: 1, according to the requirements of the transformer high pressure tapping range can be ±2×2.5%.

2, other capacity of the product performance parameters, determined by the user and the manufacturer.

3, the size is for reference only, based on the actual drawings and dimensions.

S22型35kV油浸式电力变压器(50kVA~2500kVA三相双绕组无励磁调压配电变压器)技术参数

S22 type 35kV oil-immersed power transformer (50kVA~2500kVA three-phase double-winding non-exciting voltage regulation distribution transformer) technical parameters

额定容量 Rated capacity (kVA)	高压 High voltage (kV)	高压分接范围 High pressure tap range (%)	低压 Low pressure (kV)	联结组标号 Join group label	S22		空载电流 No-load current (%)	短路阻抗 Short-circuit impedance (%)
					空载损耗 No load loss kW	负载损耗 Load loss kW		
50	35	±2×2.5 ±5	0.4	Dyn11 Yyn0	90	1085/1025	1.00	6.5
100					130	1815/1720	0.88	
125					150	2140/2045	0.88	
160					160	2545/2425	0.80	
200					190	2995/2850	0.80	
250					225	3565/3390	0.76	
315					270	4285/4085	0.76	
400					325	5180/4940	0.68	
500					380	6230/5940	0.68	
630					465	7100	0.52	
800					550	8485	0.52	
1000					645	10355	0.52	
1250					785	12540	0.48	
1600					945	15010	0.48	
2000					1115	18715	0.44	
2500					1325	22040	0.44	

注: 尺寸仅供参考, 以实际提供的图纸和尺寸为准 (外形尺寸根据用户具体需要进行设计)。

Note: The dimensions are for reference only, based on the actual drawings and dimensions provided (the overall dimensions are designed according to the specific needs of users).

110kV

油浸式电力变压器

Oil-immersed power transformer



超高压变压器，利用日本东芝的分析软件和本公司特有的计算和验证程序，对变压器铁心、线圈、器身、引线、油箱等部件进行全方位的优化设计及验证，确保产品性能。

Ultra-high voltage transformer, using Japan Toshiba analysis software and the company's unique calculation and verification procedures, transformer core, coil, body, lead, fuel tank and other components for a full range of optimization design and verification to ensure product performance.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

概述续 Overview Continue

优越的工艺设备、精心的材料选取、高效的生产制造，使得变压器具有体积小、重量轻、低损耗、低局放、低噪音等特点，产品品质优越、节能环保、安装维护方便，运行可靠并有效地降低了产品运行费用。

本公司产品 SSZ11-40000/110 通过国家变压器质量监督检验中心短路承受能力及所有例行型式试验。

本产品具有稳定、信赖、经济、环保的特点，适用于发电厂、变电站、大型工矿石化企业等。

Superior process equipment, careful material selection, efficient production and manufacturing, making the transformer has the characteristics of small size, light weight, low loss, low noise, superior product quality, energy saving and environmental protection, easy installation and maintenance, reliable operation and effective reduction of product operating costs.

The company's product SSZ11-40000/110 passed the national transformer Quality supervision and inspection center short circuit endurance and all routine type tests.

This product has the characteristics of stability, trust, economy, environmental protection, suitable for power plants, substations, large industrial, mining and petrochemical enterprises.

110kV 油浸式三相双绕组无励磁调压电力变压器技术参数

Technical parameters of 110kV oil-immersed three-phase double-winding unexcited voltage regulation power transformer

额定容量 Rated capacity kVA	1 级 level		2 级 level		3 级 level		短路阻抗 Short-circuit impedance %
	空载损耗 No-load loss kW	负载损耗 Load loss (75°C)kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C)kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C)kW	
6300	4.1	32	1.8	32	5.9	33	10.5
8000	4.9	38	5.8	38	7.1	40	
10000	5.8	45	6.8	45	8.4	48	
12500	6.8	53	8.1	53	9.9	56	
16000	8.3	65.7	9.8	65.7	12.0	69	
20000	9.7	79	11.4	79	14.1	84	
25000	11.4	94	13.5	94	16.6	99	
31500	13.5	111	16.0	111	19.7	117	
40000	16.2	133	19.1	133	23.5	141	
50000	19.4	158	22.9	158	28.2	166	
63000	22.9	187	27.0	187	33.3	198	
75000	26.0	212	30.7	212	37.8	224	
90000	29.9	245	35.4	245	43.5	258	
120000	37.3	303	44.1	303	54.2	320	
150000	44.1	359	52.1	359	64.1	379	
180000	49.5	411	58.5	411	72.0	434	

110kV 油浸式三相双绕组低压为 35 kV 无励磁调压电力变压器技术参数

110kV oil-immersed three-phase double-winding low-voltage 35 kV unexcited voltage regulation power transformer technical parameters

额定容量 Rated capacity kVA	1 级 level		2 级 level		3 级 level		短路阻抗 Short-circuit impedance %
	空载损耗 No-load loss kW	负载损耗 Load loss (75°C)kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C)kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C)kW	
6300	4.4	33	5.2	33	6.4	35	10.5
8000	5.3	40	6.2	40	7.7	42	
10000	6.2	47	7.3	47	9.0	49	
12500	7.2	56	8.5	56	10.5	59	
16000	8.6	68	10.1	68	12.5	72	
20000	10.2	85	12.0	85	14.8	89	
25000	12.1	99	14.2	99	17.5	105	
31500	14.3	120	16.8	120	20.7	126	
40000	16.9	140	20.0	140	24.6	147	
50000	20.3	174	24.0	174	29.5	183	
63000	24.0	209	28.3	209	34.9	220	



110kV 油浸式三相三绕组无励磁调压变压器技术参数

Technical parameters of 110kV oil-immersed three-phase three-winding unexcited voltage regulator transformer

额定容量 Rated capacity kVA	1 级 level		2 级 level		3 级 level		短路阻抗 % Short-circuit impedance %	
	空载损耗 No-load loss kW	负载损耗 Load loss (75°C) kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C) kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C) kW	升压 boost	降压 decompression
6300	4.9	40	5.8	40	7.1	42		
8000	5.8	48	6.9	48	8.5	50		
10000	6.9	56	8.2	56	10.1	59		
12500	8.1	67	9.6	67	11.8	70		
16000	9.8	81	11.6	81	14.3	86		
20000	11.6	95	13.7	95	16.9	101		
25000	13.5	113	16.0	113	19.7	120		
31500	16.2	134	19.1	134	23.5	142		
40000	19.1	161	22.6	161	27.8	170		
50000	22.9	192	27.0	192	33.3	202		
63000	27.1	230	32.0	230	39.4	243		

110kV 油浸式三相双绕组有载调压电力变压器技术参数

Technical parameters of 110kV oil-immersed three-phase double-winding on-load regulating power transformer

额定容量 Rated capacity kVA	1 级 level		2 级 level		3 级 level		短路阻抗 Short-circuit impedance %
	空载损耗 No-load loss kW	负载损耗 Load loss (75°C) kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C) kW	空载损耗 No-load loss kW	负载损耗 Load loss (75°C) kW	
6300	4.4	32	5.2	32	6.4	33	
8000	5.3	38	6.2	38	7.7	40	
10000	6.2	45	7.3	45	9.0	48	
12500	7.4	53	8.7	53	10.7	56	
16000	8.9	66	105	66	12.9	69	
20000	106	79	12.5	79	154	84	
25000	12.3	94	14.8	94	18.2	99	
31500	14.9	111	17.6	111	21.6	117	
40000	178	140	21.0	140	25.8	148	
50000	21.0	175	24.8	175	306	184	
63000	25.0	209	29.5	209	363	220	

10kV 级 SCB12、SCB14、SCB18

环氧树脂浇注干式电力变压器

Epoxy resin cast dry type power transformer

3C 认证
3C certification漏电保护
Leakage protection过载保护
Overload protection耐冷热
Resistance to heat and cold

10kV 级 SCB12、SCB14、SCB18 型环氧树脂浇注干式电力变压器，可作为油浸式配电变压器的更新换代产品，是各类干式变压器中性能最优的产品，特别适用于城市电网、高层建筑、商务中心、剧院、医院、宾馆、隧道、地铁、车站、码头、机场、地下电站、试验室、组合变电站等重要场所。

10kV class SCB12, SCB14, SCB18 type epoxy resin cast dry power transformer, can be used as oil-immersed distribution transformer replacement products, is the best performance of all kinds of dry transformers products. Especially suitable for urban power grids, high-rise buildings, business centers, theaters, hospitals, hotels, tunnels, subways, stations, docks, airports, underground power stations, laboratories, combined substations and other important places.



型号含义 Model meaning

S	C	(B)	□	-	□	/	□
电压等级	Voltage grade (kV)						
额定容量	Rated capacity (kVA)						
性能水平代号	performance level code-name						
低压箔式绕组	Low-voltage foil winding						
环氧树脂浇注型	Epoxy resin cast						
三相	Three-phase						

外壳保护装置 Shell protection device

外壳材料采用不锈钢或铝合金。防护等级达到 IP20 和 IP23。IP20 外壳可防止直径大于 12mm 的固体异物进入，对变压器作进一步的安全保护。IP23 外壳更兼具防止与垂直线 60°角以内的水滴流入，可适用于户外运行。
注：IP23 外壳会使变压器冷却能力下降，小容量的下降约 5%，大容量的下降约 10%。

Shell is made of stainless steel or aluminum alloy. Protection grade can reach IP20 and IP23. IP20 housing can prevent solid foreign objects of diameter more than 12mm enter into and protect the transformer safely. IP23 housing can prevent the vertical drop of less than 60° of flow, suits for outdoor operation.
Note: IP23 housing can make the transformer cool, small capacity is decreased by about 5%, high-capacity is decreased by about 10%.

产品特点 Characteristics of the product

我厂生产的 10kV 级 SC(B)12、SC(B)14、SC(B)18、型电力变压器为国内较早领有产品型号证书的低噪声低损耗型树脂浇注线圈干式变压器。由于先进的设计、优质的材料、科学的配方、严格的工艺和高标准的检测，使产品具有如下特点：
1. 高压绕组用铜线，低压绕组用铜线或铜箔绕制，玻璃纤维毡填充包绕，真空状态下用不加填料的环氧树脂浇注，固化后形成坚固的圆筒形整体，机械强度高，局部放电小，可靠性高。
2. 阻燃、防爆、不污染环境。缠绕线圈的玻璃纤维等绝缘材料具有自熄特性，不会因短路产生电弧，高热下树脂不会产生有毒有害气体。
3. 线圈不吸潮，铁芯夹件有特殊的防蚀保护层，可在 100% 相对湿度和其它恶劣环境中运行。间断运行无须去潮处理。
4. 抗短路、雷电冲击水平高
5. 线圈内外侧树脂层薄，散热性能好。冷却方式一般采用空气自然冷却 (AN)。对于任何防护等级的变压器，都可配置风冷系统 (AF)，以提高短时过载能力，确保安全运行。
6. 损耗低，节电效果好，运行经济，可免维护。
7. 体积小，重量轻，占地空间少，安装费用低，不须考虑排油池、防火消防设施和备用电源等。
8. 因无火灾、爆炸之虞，可分散安装在负荷中心，充分靠近用电点，从而降低线路造价和节省昂贵的低压设施费用。

The 10kV class SC(B)12, SC(B)14, SC(B)18 power transformers produced by our factory are the low noise and low loss resin wound injection coil dry transformers which have the product type certificate earlier in China. Due to advanced design, high-quality materials, scientific formula, strict process and high standard testing, the product has the following characteristics:
1. The high-voltage winding is made of copper wire, the low-voltage winding is made of copper wire or copper foil, the glass fiber felt is filled and wrapped, the epoxy resin is poured without filler under vacuum, and the solid cylindrical whole is formed after curing, with high mechanical strength, small partial discharge and high reliability.
2. Flame retardant, explosion proof, no pollution to the environment. The insulating materials such as glass fiber winding coil have self-extinguishing characteristics, which will not produce arc due to short circuit, and the resin will not produce toxic and harmful gases under high heat.
3. The coil does not absorb moisture, and the core clip has a special anti-corrosion protective layer, which can operate in 100% relative humidity and other harsh environments. No dehumidification is required for intermittent operation.
4. High resistance to short circuit and lightning impact
5. Coil inside and outside the resin layer is thin, good heat dissipation performance. The cooling method is generally natural air cooling (AN). For transformers of any protection class, air cooling systems (AF) can be configured to increase short-term overload capacity and ensure safe operation.
6. Low loss, good power saving effect, economic operation, maintenance-free.
7. Small size, light weight, less space, low installation cost, do not need to consider oil drainage pool, fire protection facilities and standby power supply.
8. Because there is no danger of fire and explosion, it can be dispersed in the load center and fully close to the power point, thereby reducing the line cost and saving expensive low-voltage facilities.

温控、温显 Temperature control and temperature display

温控系统由温度控制器和安装在产品最热点即低压绕组上端部的 PTC 测温元件构成，实现对变压器的温度测量与控制，若由于过载运行或故障引起变压器绕组温度过高，温度控制器发出报警信号，温度超过安全值时会自行跳闸。采用强迫风冷时则由温度控制器根据绕组温度高低决定冷却风机的投入或切换。

温显系统直接显示变压器运行过程中绕组的热点温度，可和温控系统配合使用。

温控和温显系统可以安装在距变压器主体一定距离外，其测温元件引线的长度分别为：

温控: <20m/ 温显: <10m (二线制) /<100m(带有补偿导线的二线制)

Temperature control system is composed of temperature controller and PTC thermometer element of lower voltage winding in the hottest point. Realize to control and measure the temperature of transformer. If the operation is failure for overload or transformer winding temperature is too high, the temperature controller will send an alarming signal. When the temperature exceeds the value of their own safety trip. Forced air cooling by the temperature controller is according to the winding temperature which is decided by input or switch cooling fan.

Direct indication of temperature display system during the operation of the transformer winding hot spot temperature, and temperature control system can be used in conjunction.

Temperature control and temperature display system can be installed in a certain distance away from the main transformer, the length of temperature component is:
Temperature control: <20m/ Temperature display: <10m (2 wires)
<100m (two wires with a compensating conductor)

SCB12 环氧树脂浇注干式电力变压器技术参数

SCB12 epoxy resin cast dry type power transformer technical parameters

额定容量 Rated capacity kVA	电工钢带 Electrical steel band SCB12			短路阻抗 Short-circuit impedance %
	空载损耗 No load loss W	负载损耗 Load loss W		
	B(100°C)	F(120°C)	H(145°C)	
30	150	670	710	760
50	215	940	1000	1070
80	295	1290	1380	1480
100	320	1480	1570	1690
125	375	1740	1850	1980
160	430	2000	2130	2280
200	495	2370	2530	2710
250	575	2590	2760	2960
315	705	3270	3470	3730
400	785	3750	3390	4280
500	930	4590	4880	5230
630	1070	5530	5880	6390
630	1040	5610	5960	6400
800	1215	6550	6960	7460
1000	1415	7650	8130	8760
1250	1670	9100	9690	10370
1600	1960	11050	11730	12580
2000	2440	13600	14450	15560
2500	2880	16150	17170	18450
3150	3425	19210	20420	21950
4000	4100	22980	24430	26250

注：尺寸仅供参考，以实际提供的图纸和尺寸为准。

Note: The dimensions are for reference only and are subject to the actual drawings and dimensions provided.



SCB14 环氧树脂浇注干式电力变压器技术参数
SCB14 epoxy resin cast dry type power transformer technical parameters

额定容量 Rated capacity kVA	电工钢带 Electrical steel band SCB14			短路阻抗 Short-circuit impedance %
	空载损耗 No load loss W	负载损耗 Load loss w		
		B(100°C)	F(120°C)	H(145°C)
30	130	605	640	685
50	185	845	900	965
80	250	1160	1240	1330
100	270	1330	1415	1520
125	320	1565	1665	1780
160	365	1800	1915	2050
200	420	2135	2275	2440
250	490	2330	2485	2665
315	600	2945	3125	3365
400	665	3375	3590	3850
500	790	4130	4390	4705
630	910	4975	5290	5660
630	885	5050	5365	5760
800	1035	5895	6265	6715
1000	1205	6885	7315	7885
1250	1420	8790	8720	9335
1600	1665	9945	10555	11320
2000	2075	12240	13005	14005
2500	2450	14535	15445	16605
3150	2915	17290	18370	19750
4000	3485	20680	21980	23630

注: 尺寸仅供参考, 以实际提供的图纸和尺寸为准。
Note: The dimensions are for reference only and are subject to the actual drawings and dimensions provided.

SCB18 环氧树脂浇注干式电力变压器技术参数
SCB18 epoxy resin cast dry type power transformer technical parameters

额定容量 Rated capacity kVA	电工钢带 Electrical steel band SCB18			短路阻抗 Short-circuit impedance %
	空载损耗 No load loss W	负载损耗 Load loss w		
		B(100°C)	F(120°C)	H(145°C)
30	105	605	645	685
50	155	845	900	965
80	210	1160	1240	1330
100	230	1360	1415	1520
125	270	1565	1655	1780
160	310	1800	1915	2050
200	360	2135	2275	2440
250	415	2330	2485	2665
315	510	2945	3125	3355
400	570	3375	3590	3850
500	670	4130	4390	4705
630	775	4975	5290	5660
630	750	5050	5365	5760
800	875	5895	6365	6715
1000	1020	6885	7315	7885
1250	1205	8190	8720	9335
1600	1415	9945	10555	11320
2000	1760	12240	13005	14005
2500	2080	14535	15445	16605
3150	2475	17290	18370	19750
4000	2960	20680	21980	23630

注: 尺寸仅供参考, 以实际提供的图纸和尺寸为准。
Note: The dimensions are for reference only and are subject to the actual drawings and dimensions provided.

35kV 级 SC(B)12、14、18

环氧树脂浇注干式电力变压器

Epoxy resin cast dry type power transformer



3C 认证
3C certification



漏电保护
Leakage protection



过载保护
Overload protection



耐冷热
Resistance to heat and cold

本系列产品用于将 35kV 电网电源直接降低为 400V 配电电源或 10kV 输电电源为用户供电, 由于具有显著优点, 为越来越多的工程所采用。其主要优点有:

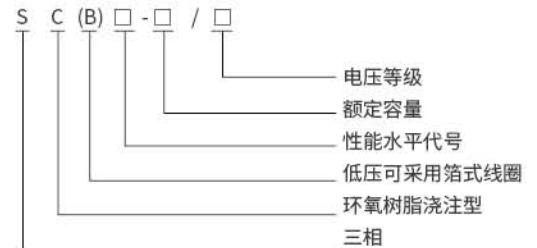
- 减少占地和多级变电工程建设, 具有显著的社会效益。
- 节省工程投资, 提高经济效益。
- 减少 10kV 输变电环节, 使运行维护费用明显降低。
- 35kV 电源直接进入用电中心, 有效提高供电的可靠性。

This series of products is used to directly reduce the 35kV grid power supply to 400V distribution power supply or 10kV transmission power supply for the user, because of its significant advantages, more and more projects are used. Its main advantages are:

- Reduce the area and multi-stage power transformation project construction, with significant social benefits.
- Save project investment and improve economic efficiency.
- Reduce 10kV power transmission and transformation links, so that the operation and maintenance costs are significantly reduced.
- 35kV power supply directly into the power supply center, effectively improve the reliability of power supply.



型号含义 Model meaning



电压等级
 额定容量
 性能水平代号
 低压可采用箔式线圈
 环氧树脂浇注型
 三相

产品特点 Characteristics of the product

我公司生产的 SC(B)12、SC(B)14、SC(B)18 系列 35kV 级无励磁调压干式变压器属低损耗产品，符合国家标准 GB6450、GB/T10228 和 IEC726 的要求，并具有以下特点：

- 高性能、低损耗，为 10 型系列的换代产品。
- 选用优质硅钢片，同时大幅降低磁通密度，减小运行中硅钢片磁致伸缩量，有效降低噪音。
- 优化高压线圈结构，改善了层间电压和电容的分布，大大提高了产品耐受大气过电压和操作过电压的冲击能力，同时也改善了电场分布，使产品局放量进一步降低。
- 可配置温控系统和风冷装置，在负荷过大时自动启动风机冷却装置，有效提高设备过负荷能力。

Our company produced SC(B)12, SC(B)14, SC(B)18 series of 35kV non-excitation voltage regulation dry transformer is a low loss products, in line with the national standards GB6450, GB/T10228 and IEC726 requirements, and has the following characteristics:

- High performance, low loss, replacement of Type 10 series.
- High-quality silicon steel sheet is selected to greatly reduce the magnetic flux density, reduce the magnetostriction amount of silicon steel sheet in operation, and effectively reduce noise.
- Optimized the high-voltage coil structure, improved the distribution of interlayer voltage and capacitance, greatly improved the impact ability of the product to withstand atmospheric overvoltage and operating overvoltage, and also improved the electric field distribution, which further reduced the volume of the product.
- Temperature control system and air cooling device can be configured to automatically start the fan cooling device when the load is too large, effectively improving the overload capacity of the equipment.

35kV SC(B)12 环氧树脂浇注干式电力变压器技术参数

35kV SC(B)12 epoxy resin cast dry type power transformer technical parameters

额定容量 Rated capacity (kVA)	空载损耗 No load loss kW	负载损耗 Load loss kW			短路阻抗 Short-circuit impedance %
		B (100°C)	F (120°C)	H (145°C)	
1000	1.7	9.8	10.4	11.2	6.0~14.0
1250	2.0	11.9	12.7	13.5	
1600	2.3	14.5	15.4	16.5	
2000	2.7	17.1	18.2	19.4	
2500	3.2	20.5	21.8	23.3	
3000	3.9	22.6	24.0	25.6	
3500	4.3	23.1	24.5	26.1	
4000	5.0	27.7	29.4	31.3	
4500	5.4	30.4	32.3	34.5	
5000	6.0	32.8	34.9	37.3	
6300	7.1	38.4	40.6	43.6	
8000	8.5	46.3	49.2	52.6	
10000	10.2	54.5	52.9	61.9	

35kV SC(B)14 环氧树脂浇注干式电力变压器技术参数

35kV SC(B)14 epoxy resin cast dry type power transformer technical parameters

额定容量 Rated capacity (kVA)	空载损耗 No load loss kW	负载损耗 Load loss kW			短路阻抗 Short-circuit impedance %
		B (100°C)	F (120°C)	H (145°C)	
1000	1.6	8.8	9.4	10.1	6.0~14.0
1250	1.8	10.7	11.4	12.2	
1600	2.1	13.1	13.9	14.9	
2000	2.5	15.4	16.4	17.5	
2500	2.9	18.5	19.6	21.0	
3000	3.5	20.3	21.6	23.1	
3500	3.9	20.7	22.1	23.5	
4000	4.5	24.9	26.5	28.2	
4500	4.9	27.4	29.1	31.1	
5000	5.4	29.6	31.4	33.6	
6300	6.4	34.6	36.7	39.2	
8000	7.6	41.7	44.3	47.3	
10000	9.1	49.0	52.1	55.7	

35kV SC(B)18 环氧树脂浇注干式电力变压器技术参数

35kV SC(B)18 epoxy resin cast dry type power transformer technical parameters

额定容量 Rated capacity (kVA)	空载损耗 No load loss kW	负载损耗 Load loss kW			短路阻抗 Short-circuit impedance %
		B (100°C)	F (120°C)	H (145°C)	
1000	1.4	8.8	9.4	10.1	6.0~14.0
1250	1.6	10.7	11.4	12.2	
1600	1.9	13.1	13.9	14.9	
2000	2.2	15.4	16.4	17.5	
2500	2.6	38.5	19.6	21.0	
3000	3.2	20.3	21.6	23.1	
3500	3.5	20.7	22.1	23.5	
4000	4.1	24.9	26.5	28.2	
4500	4.4	27.4	29.4	31.1	
5000	4.8	29.6	31.4	33.6	
6300	5.7	34.6	36.7	39.2	
8000	6.9	41.7	44.3	47.3	
10000	8.2	49.0	52.1	55.7	



KYN61-40.5

铠装移开式交流金属封闭开关设备

Armored movable AC metal closed switchgear



KYN61-40.5(Z)型铠装移开式交流金属封闭开关设备(以下简称“开关设备”)它适用于三相交流50Hz电力系统,用于发电厂、变电所及工矿企业的配电室接受和分配电能之用,并对电路实行控制、保护及监测。

本产品符合标准:GB3906《3~35kV交流金属封闭开关设备》,GB/T11022《高压开关设备和控制设备标准共用技术要求》、IEC60298《额定电压1kV以上及50kV以下交流金属封闭开关设备和控制设备》。

KYN61-40.5(Z) type armored movable AC metal closed switchgear (hereinafter referred to as "switchgear") It is suitable for three-phase AC 50Hz power system, for power plants, substations and industrial and mining enterprises of the distribution room to accept and distribute electrical energy, and the circuit control, protection and monitoring. This product conforms to the standards: GB3906 "3~35kV AC metal enclosed switchgear", GB/T11022 "High voltage switchgear and control equipment standard common technical requirements", IEC60298 "rated voltage above 1kV and below 50kV AC metal enclosed switchgear and control equipment".

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model Meanings



额定短路开断电流
Rated short-circuit breaking current
 额定电流
Rated current
 断路器种类 Z 真空
Circuit breaker Type Z Vacuum
 SF6 六氟化硫
SF6 sulfur hexafluoride
 额定电压 (kV)
Rated voltage (kV)
 设计序号
Design sequence number
 户内
indoor
 移开式
Shifting type
 金属铠装式
Metal armoured type

正常使用条件 Normal service condition

- 温度范围: -10°C 至 +40°C
- 海拔 ≤ 1000m (高海拔可定制)
- 湿度: 日 ≤ 95%, 月 ≤ 90%
- 空气清洁, 无腐蚀、污秽、可燃气体及剧烈振动
- 地震强度 ≤ 8 度

- Temperature range: -10°C to +40°C
- Altitude ≤ 1000m (High altitude can be customized)
- Humidity: day ≤ 95%, month ≤ 90%
- Clean air, free from corrosion, pollution, combustible gas and violent vibration
- Earthquake intensity ≤ 8 degrees

结构特点 Structural characteristics

开关柜设计遵循 GB3906-2006 及 IEC298 标准, 分柜体与可抽出式手车两部分。柜体组装式, 内部由金属隔板分隔成断路器、母线、电缆及继电器仪表室, 外壳 IP3X, 隔室间 IP2X, 金属件接地, 有独立排气通道。手车类型多样, 尺寸统一, 可互换, 设有试验 / 隔离及工作位置, 配联锁装置确保安全。

The design of the switch cabinet follows GB3906-2006 and IEC298 standards, and is divided into two parts: cabinet body and extractable handcart. Cabinet assembly type, the interior is divided by metal partition into circuit breaker, bus, cable and relay instrument room, the shell IP3X, IP2X between the compartments, metal parts are grounded, there is an independent exhaust channel. Various types, uniform size, interchangeable, equipped with test/isolation and working position, equipped with interlocking device to ensure safety.

主要技术参数 Main Technical Parameter

项目 Item	单位 Unit	参数 Argument
额定电压 Rated voltage	kV	40.5
额定频率 Rated frequency	Hz	50
额定绝缘水平 Rated insulation level	1min 工频耐受电压 1min power frequency withstand voltage	kV 95(隔离断口 (Isolation fracture) 115)
	雷电冲击耐受电压 (峰值) Lightning impulse withstand voltage (peak)	kV 185(隔离断口 (Isolation fracture) 115)
主母线额定电流 Rated current of main bus	A	630 ~ 2500 3150※
额定短路开断电流 Rated short-circuit breaking current	A	31.5
额定短时耐受电流 (4s) Rated short-time withstand current (4s)	kA	25
额定峰值耐受电流 Rated peak withstand current	kA	31.5
辅助控制回路额定 Auxiliary control loop rating	V	25

※ 强迫风冷 Forced air cooling

KYN28-12

铠装移开式交流金属封闭开关设备

Armored movable AC metal closed switchgear

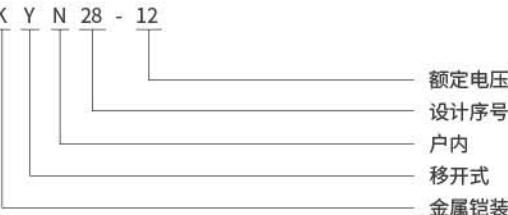


KYN28-12型铠装移开式交流金属封闭开关设备，适用于户内三相50/60Hz、12kV电力系统，广泛用于发电厂、变电所等场所，实现电能分配、电路控制、保护及监测。该设备具备多重防误操作功能，配置高性能VS1、VN2系列真空断路器及先进二次回路控制保护元件。母线绝缘优化，结构紧凑，技术先进，性能稳定，安全可靠。

KYN28-12 armored removable AC metal closed switchgear, suitable for indoor three-phase 50/60Hz, 12kV power system, widely used in power plants, substations and other places, to achieve power distribution, circuit control, protection and monitoring. The equipment has multiple anti-misoperation functions, equipped with high-performance VS1, VN2 series vacuum circuit breakers and advanced secondary circuit control and protection elements. Bus insulation optimization, compact structure, advanced technology, stable performance, safe and reliable.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings



额定电压 (kV)
Rated voltage (kV)
设计序号
Design sequence number
户内
indoor
移开式
Shifting type
金属铠装式
Metal armoured type

正常使用条件 Normal service condition

- 温度范围: -15°C 至 +40°C, 日均 ≤ 35°C
- 湿度: 日平均 RH ≤ 95%, 月平均 RH ≤ 90%
- 水蒸气压: 日平均 ≤ 2.2kPa, 月平均 ≤ 1.8kPa
- 海拔 ≤ 1000m (高海拔可定制)
- 空气清洁, 无尘埃、腐蚀性气体等污染
- 外部振动、地动可忽略
- 电磁干扰幅值 ≤ 1.6kV 于二次系统

- Temperature range: -15°C to +40°C, daily average ≤ 35°C
- Humidity: daily average RH ≤ 95%, monthly average RH ≤ 90%
- Steam pressure: daily average ≤ 2.2kPa, monthly average ≤ 1.8kPa
- Altitude ≤ 1000m (High altitude can be customized)
- Clean air, no dust, corrosive gas and other pollution
- External vibration and ground movement can be ignored
- Electromagnetic interference amplitude ≤ 1.6kV in the secondary system

特殊使用条件 Special service conditions

在超过 GB/T11022 规定的正常环境条件下使用时, 本公司和用户可就超出正常运行条件的特殊运行条件进行协商, 并达成协议。为防止凝露现象, 开关设备设有加热器, 当开关设备处于备用状态时即应投入使用。开关设备正常运行时也应注意投运加热器。

When used under the normal environmental conditions specified in GB/T11022, the Company and the user may negotiate and reach an agreement on special operating conditions beyond the normal operating conditions. In order to prevent condensation, the switchgear is equipped with a heater and should be put into use when the switchgear is in standby state. Switching equipment should also pay attention to the normal operation of the heater.

主要技术参数 Main Technical Parameter

项目 Item		单位 Unit	参数 Argument				
额定电压	Rated voltage	kV	12				
额定频率	Rated frequency	Hz	50/60				
额定绝缘水平 Rated insulation level	雷电冲击耐受电压 (峰值) Lightning impulse withstand voltage (peak)	kV	相间相对地 interphase	60	隔离开口 Isolation fracture		
	1min 工频耐受电压 (有效值) 1min power frequency withstand voltage (RMS)	kV		125	145		
辅助控制回路工频耐受电压 Auxiliary control loop power frequency withstand voltage		V	2000				
额定电流	Rated current	A	630,1250,1600,2000,2500,3150				
额定短路开断电流	Rated short-circuit breaking current	kA	20	31.5			
额定短路关合电流 (峰值)	Rated short circuit closing current (peak)	kA	50	80			
额定短时耐受电流 (4s)	Rated short-time withstand current (4s)	kA	20	31.5			
额定峰值耐受电流	Rated peak withstand current	kA	50	80			
辅助控制回路额定电压 Rated voltage of auxiliary control loop		V	直流或交流 Dc or AC 110/220				
防护等级 Protection level			IP4X (断路器室门打开或隔室室间为 IP2X) (The circuit breaker door is open or the compartment is IP2X)				
外形尺寸 (宽 × 深 × 高) Overall dimensions (width × depth × height)		mm	800×1810×2380	1000×1810×2380			
重量 weight		Kg	840~1440				

注: 架空进出线柜深度为 2360mm。

Note: The depth of the overhead inlet and outlet cabinet is 2360mm.

XGN □ -12

智能固体绝缘环网柜

Intelligent solid insulated ring cabinet



XGN □ -12 是新一代固体绝缘环网柜，专为智能电网设计，适用于 12kV 配电系统。其基于成熟真空灭弧室技术，免维护，拥有 10,000 次操作寿命认证。采用单相绝缘材料，优化绝缘与散热，降低燃弧风险。全封闭设计保护系统免受环境影响，绿色环保，替代 SF6 环网柜。无气体维护需求，降低全周期成本。紧凑设计节省空间，通过权威防内部燃弧验证，保障操作安全。配备模拟显示与可视窗，便于监控内部状态。

XGN □ -12 is a new generation of solid insulated ring cabinet, designed for smart grid, suitable for 12kV distribution systems. Based on proven vacuum interrupter technology, it is maintenance-free and has a 10,000 operation life certification. Single-phase insulation material is used to optimize insulation and heat dissipation and reduce the risk of ignition. The fully enclosed design protects the system from environmental impacts and is environmentally friendly, replacing the SF6 ring cabinet. No gas maintenance requirements, reducing full cycle costs. The compact design saves space and ensures safe operation through authoritative anti-internal arc verification. Equipped with analog display and adjustable window for easy monitoring of internal status.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings

X G N - 12 □ □	额定开断短路电流 (kA) Rated breaking short circuit current
	额定电流 (A) Rated current (A)
	设计序号 Design sequence number
	户内装置 Indoor installation
	固定式 Stationary
	固体绝缘 Solid insulation

主要技术参数 Main Technical Parameter

项目 Item	单位 Unit	参数 Argument
常规 routine		
额定电压 Rated voltage	kV	12
额定频率 Rated frequency	Hz	50
工频耐压 Power frequency withstand voltage	kV/min	42/48
雷电冲击电压 Lightning impulse voltage	kV	75/85
燃弧持续时间 Duration of ignition	s	≥ 0.5
一次部件防护等级 (计量柜除外) Primary component protection class (except metering cabinet)		IP67
柜体防护等级 Cabinet protection level		IP4X
隔室间防护等级 Class of compartment protection		IP2X
操作电源电压 Operating supply voltage		DC24、48、110、220 AC110、220

负荷开关单元 Load switching Unit	单位 Unit	参数 Argument
额定电流 Rated current	A	630
额定短路关合电流 Rated short-circuit closing current	kA	50
额定短时耐受电流 Rated short-time withstand current	kA/S	20/4
负荷开关机械寿命 Load switch mechanical life	次	M2 10000
负荷开关电气寿命 Load switch electrical life	次	E3

断路器单元 Circuit breaker Unit	单位 Unit	参数 Argument
额定电流 Rated current	A	630/1250
额定短路开断电流 Rated short-circuit breaking current	kA	20/25
额定短路关合电流 Rated short-circuit closing current	kA	50/63
额定短时耐受电流 Rated short-time withstand current	kA/S	20/4(25/4)
断路器机械寿命 Mechanical life of circuit breaker	次	10000
断路器电气寿命 Circuit breaker electrical life	次	E2
额定操作顺序 Rated operating sequence		0-0.3S-CO-180S-CO

接地开关 Ground switch	单位 Unit	参数 Argument
额定电流 Rated current	A	630/1250
额定短时耐受电流 Rated short-time withstand current	kA	20/25
额定短时持续时间 Rated short duration	S	4
额定峰值耐受电流 Rated peak withstand current	kA	50/63
额定短路关合电流 (峰值) Rated short circuit closing current (peak)	kA	50
额定短路关合电流次数 Rated short circuit closing current number	次	2
机械寿命 Mechanical life	次	3000

隔离开关 Disconnecting switch	单位 Unit	参数 Argument
额定电流 Rated current	A	630/1250
额定短时耐受电流 Rated short-time withstand current	kA	20/25
额定短时持续时间 Rated short duration	S	4
额定峰值耐受电流 Rated peak withstand current	kA	50/63
机械寿命 Mechanical life	次	3000

负荷开关 - 熔断器组合电器单元 Load switch-fuse combined electrical Unit	单位 Unit	参数 Argument
额定电流 (最大) Rated current (Max.)	A	200
额定短路开断电流 Rated short-circuit breaking current	kA	31.5
额定电路关合电流 Rated circuit closing current	kA	80
额定交接电流 Rated crossover current	A	3150

母线系统 Bus system	单位 Unit	参数 Argument
额定电流 Rated current	A	360/1250
额定短时耐受电流 Rated short-time withstand current	kA/S	20/4(25/4)
额定峰值耐受电流 Rated peak withstand current	kA	50(63)

HXGN □ -12(SF6)

单元式交流金属封闭环网开关设备

Unit-type AC metal closed ring switchgear



HXGN □ -12(SF6) 环网柜，融合国际先进技术与国内需求设计，符合 IEC 及 GB 标准。采用 ABB 原装或组装元件，可选 SF6 或真空断路器，支持手动 / 电动操作。柜体精工制造，IP3X 防护，防误操作设计。产品体积小、重量轻、美观耐用，长寿命、低维护，环保无污染。适用于 12kV、50Hz 电网，作为电能分配核心。

HXGN □ -12(SF6) ring main unit is designed by combining international advanced technology and domestic demand, and conforms to IEC and GB standards. It adopts ABB original or assembled components, optional SF6 or vacuum circuit breakers, and supports manual/electrical operation. The cabinet is precision manufactured, IP3X protected, and designed to prevent misoperation. Small size, light weight, beautiful and durable, long life, low maintenance, environmental protection and no pollution. It is suitable for 12kV, 50Hz power grid, as the core of power distribution.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings



The main switch in the cabinet is SF6
Voltage level (kV)
Design sequence number
Indoor
Stationary
Box-type
Ring cabinet

正常使用条件 Normal service condition

- 环境温度: 上限 +40°C, 下限 -25°C;
- 海拔高度: 海拔高度不超过 2000m, 高海拔产品可定制;
- 相对湿度: 日平均值不大于 95%; 月平均值不大于 90%;
- 周围环境: 周围空气不受腐蚀气体或可燃性气体、水蒸气等明显污染;
- 无经常性的剧烈振动。

- Ambient temperature: upper limit +40°C, lower limit -25°C ;
- Altitude: altitude does not exceed 2000m, high altitude products can be customized;
- Relative temperature: the daily average is not more than 95%; The monthly average is not more than 90%;
- Surrounding environment: the surrounding air is not significantly polluted by corrosive gases or flammable gases, water vapor, etc.;
- No frequent violent vibration.

主要技术参数 Main technical parameters

项目 Item	单位 Unit	参数 Argument
额定电压 Rated voltage	kV	12
额定频率 Rated frequency	Hz	50
主母线额定电流 / 熔断器最大额定电流 Rated current of main bus/Maximum rated current of fuse	A	630, 125
主回路、接地回路额定短时耐受电流 Rated short-time withstand current of main circuit and ground circuit	kA/S	20, 3
主回路、接地回路额定峰值耐受电流 Rated peak withstand current of main loop and ground loop	kA	50
主回路、接地回路额定短路关合电流 Rated short-circuit closing current of main circuit and ground circuit	kA	50
负荷开关满容量开断数 Number of full capacity breaks of load switch	次	100
熔断器开断电流 Fuse breaking current	kA	31.5, 40
额定闭环开断电流 Rated closed-loop breaking current	A	630
额定转移电流 Rated transfer current	A	1600
机械寿命 Mechanical life	次	2000
1 min 工频耐压 (峰值) 相对、对地／隔离断口 1 min power frequency withstand voltage (peak) Relative, ground/isolated fracture	kV	42, 48
雷电冲击耐受电压 (峰值) 相间、对地／隔离断口 Lightning impulse withstand voltage (peak) phase to phase, ground/isolation fracture	kV	75, 85
二次回路 1min 工频耐压 Secondary circuit 1min power frequency voltage	kV	2
防护等级 Protection level		IP3X

HXGN □ -12

箱型固定式环网高压开关柜

Box type fixed ring network high voltage switchgear

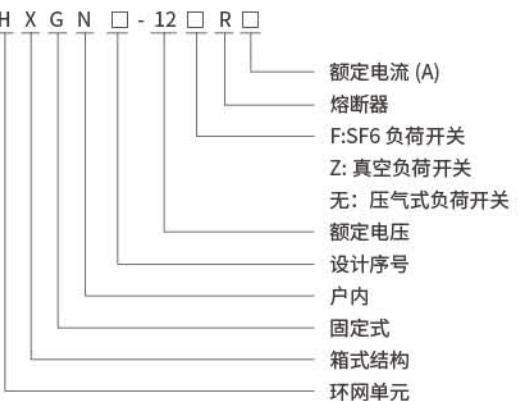


HXGN □ -12 环网柜，专为城市电网改造设计，是新型高压开关设备。用于开断负荷与短路电流，配备 FZRN 系列真空负荷开关，支持手动 / 电动操作。接地与隔离刀手动操作，具备“五防”功能，体积小，安全可靠，符合 GB3906 及 IEC60420 标准。

HXGN □ -12 ring network cabinet, specially designed for urban power grid transformation, is a new type of high voltage switchgear. For breaking load and short circuit current, equipped with FZRN series vacuum load switch for manual/ electric operation. Grounding and isolation knife manual operation, with "five prevention" function, small size, safe and reliable, in line with GB3906 and IEC60420 standards.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings



额定电流 (A)
熔断器
F:SF6 负荷开关
Z: 真空负荷开关
无: 压气式负荷开关
额定电压
设计序号
户内
固定式
箱式结构
环网单元

Rated current (A)
fuse
F:SF6 load switch
Z: vacuum load switch
None: pneumatic load switch
Rated voltage
Design sequence number
indoor
stationary
Box construction
Ring network element

正常使用条件 Normal service condition

- 周围空气温度: -15°C ~+40°C;
- 海拔高度: 1000m 及以下, 高海拔产品可定制;
- 湿度条件: 日平均值不大于 95%, 水蒸气压力日平均值不超过 2.2kPa; 月平均值不大于 90%, 水蒸气压力月平均值不超过 1.8kPa;
- 地震强度: 不超过 8 度;
- 没有腐蚀性或可燃性气体等明显污染的场所。

注: 超出上述正常使用条件时, 用户可与本公司协商。

- 周围空气温度: -15°C ~+40°C ;
- Altitude: 1000m and below, high altitude products can be customized;
- Humidity conditions: the daily average is not more than 95%, and the daily average water vapor pressure is not more than 2.2kPa; The average monthly value is not more than 90%, and the average monthly water vapor pressure is not more than 1.8kPa;
- Earthquake intensity: not more than 8 degrees;
- There is no obvious contamination such as corrosive or combustible gas.

Note: When the above normal conditions of use are exceeded, the user can negotiate with the company.

主要技术参数 Main technical parameters

项目 Item	单位 Unit	FKN12-12	FZN25-12
额定电压 Rated voltage	kV	12	
1min 工频耐受电压 1min power frequency withstand voltage	kV	对地及相间 42; 隔离断口 48 To the ground and phase 42; Isolation fracture 48	
雷电冲击电压 (峰值) Lightning impulse voltage	kV	对地及相间 75; 隔离断口 85 To the ground and phase 75; Isolation fracture 85	
额定频率 Rated frequency	Hz	50	
主母线额定电流 Rated current of main bus	A	630	
额定电流 Rated current	A	630	
额定电流下寿命 Current life at rated current	次 time	不小于 (No less than)100	
开断空载变压器容量 Disconnect no-load transformer capacity	kVA	1250	
负荷开关 Load switch		20/4; (接地开关)(ground switch)20/2	
额定热稳定电流 Rated heat stable current	kA/s	50	
额定动稳定电流 (峰值) Rated dynamic stable current (peak)	kA	50	
额定短路关合电流 (峰值) Rated short circuit closing current (peak)	kA	100	
熔断器额定电流 Rated current of the fuse	kA	1500	2000
额定转移电流 Rated transfer current	kA	315	
额定短路开断电流 Rated short-circuit breaking current	kA	S □ LAJ-12(XRNT □ -10)	
配用熔断器型号 Fitted with fuse model		2000	10000
机械寿命 Mechanical life	次 time	2	
辅助回路 1min 工频耐压 Auxiliary circuit 1min power frequency voltage	kV	交直流 (ac-DC)220; 110	
电动操动机构工作电压 Operating voltage of electric actuator	V	IP2X	
防护等级 Protection level			
外形尺寸 (宽 × 深 × 高) Overall dimensions (w × d × h)	mm	650(850)×900×2000(2200)	

SRM6-12

全绝缘充气柜

Fully insulated inflatable cabinet



SRM6-12/24 全绝缘充气柜，获国家高压电器试验认证及高新科技产品称号，广泛应用于 10kV/20kV 配电系统。其模块化设计包括固定与可扩展单元，灵活适配各类变电站需求。全密封不锈钢壳体保护带电部件，确保免维护、高可靠及人身安全。支持可扩展母线，实现全模块化组合，同时提供智能化解决方案，简化现场安装与调试。分为非扩展与可扩展配置，兼具灵活性与可扩展性，符合 GB 标准，室内外环境下设计寿命超 30 年。

SRM6-12/24 fully insulated gas-filled cabinet, certified by the National High Voltage Electrical Apparatus Testing and High-Tech Products, are widely used in 10kV/20kV distribution systems. Its modular design includes fixed and expandable Units, which can be flexibly adapted to the needs of various substations. Fully sealed stainless steel housing protects live parts, ensuring maintenance-free, high reliability and personal safety. It supports expandable busbars, realises fully modular combination, and provides intelligent solutions to simplify on-site installation and commissioning. Divided into non-expandable and expandable configurations, both flexible and expandable, compliant with GB standards, with a design life of more than 30 years in indoor and outdoor environments.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

主要特点 Main Features

- SRM6-12/24 全绝缘充气柜 SF6 气体作为灭弧及绝缘介质。
- 开关柜为全密封、全绝缘结构；母线、开关及带电部件完全封闭在不锈钢壳体中。腔体充以 1.4bar 的 SF6 气体，防护等级达到，IP67：整个开关装置完全不受外部环境条件的影响，即使在短时水浸等极端情况下也能保证开关正常运行，产品终身免维护。
- 开关柜具有完善的“五防”联锁装置，彻底杜绝人为误操作可能引起的人员及设备运行故障。
- 所有开关柜具有可靠的安全泄压通道，即使在极端情况下也能保障操作人员人身安全。
- 开关柜分为固定单元组合和可扩展单元组合两类。
- 开关柜通常由正面进出线，也可按不同的安装位置实现侧出线或侧扩展。
- 柜体尺寸安装方便，并能够适合空间狭小及环境条件不良的地方。
- 开关柜可根据用户的不同需求配置电动、远控及监测装置。

主要技术参数 Main technical parameters

项目 Item	单位 Unit	C 模块 C module	F 模块 F module	V 模块 V module		CB 模块 CB module	
		负荷开关 Load switch	组合电器 Combination apparatus	真空开关 Vacuum switch	隔离/接地开关 Isolation/ground switch	真空断路器 Vacuum circuit breaker	隔离/接地开关 Isolation/ground switch
额定电压 Rated voltage	kV	12	12	12	12	12	12
额定频率 Rated frequency	Hz	50	50	50	50	50	50
工频耐受电压 (相间 / 断口) Power frequency withstand voltage (phase/fracture)	kV	42/48	42/48	42/48	42/48	42/48	42/48
雷电冲击耐受电压 Lightning impulse withstand voltage	kV	75/85	75/85	75/85	75/85	75/85	75/85
额定电流 Rated current	A	630		630		1250/630	
分断能力 Breaking capacity							
额定闭环开断电流 Rated closed-loop breaking current	A	630					
额定电缆充电开断电流 Rated cable charging breaking current	A	10					
额定短路关合电流 (峰值) Rated short circuit closing current (peak)	A	50	80				
额定峰值耐受电流 Rated peak withstand current	kA	50					
额定短时耐受电流 Rated short-time withstand current	kA/s	20					
额定短路开断电流 Rated short-circuit breaking current	kA		31.5	20		25	
额定转移电流 Rated transfer current	A		1700				
配用熔断器最大电流 Maximum current of fuse	A	-	125				
回路电阻 Loop resistance	$\mu\Omega$	≤ 300	≤ 600				
机械寿命 Mechanical life	次 time	5000	3000	5000	2000	5000	5000

APF

有源滤波器

Active filter



APF 30A ~ 200A 系列有源滤波器应用于抑制电力谐波、动态无功补偿的三电平，高功率密度电力电子产品。该产品技术达到国内领先水平，产品系列包括 30A、50A、75A、100A、150A 规格；具备谐波补偿，无功补偿，三相不平衡补偿功能，可灵活配置成单一、混合模式的补偿方式，可广泛应用于 0.4kV 供电系统的电能质量改善。

APF 30A ~ 200A series active power filters are used in three-level, high power density power electronic products for suppressing power harmonics and dynamic reactive power compensation. The product technology has reached the domestic leading level, the product series includes 30A, 50A, 75A, 100A, 150A specifications; With harmonic compensation, reactive power compensation, three-phase imbalance compensation function, can be flexibly configured into a single, mixed mode of compensation, can be widely used in 0.4kV power supply system power quality improvement.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings

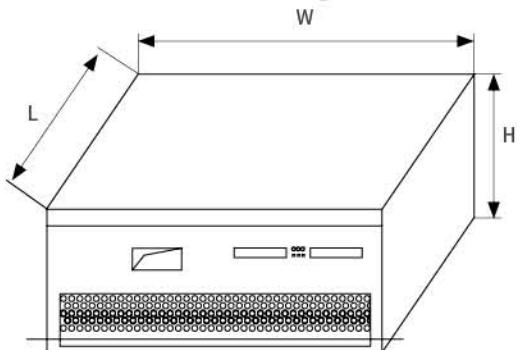
APF - □ - □ - □ - □	M: 机架式模块 ; H: 壁挂式 ; C: 整柜式	M: rack-mounted module; H: wall-mounted; C: Full cabinet type
3L: 三相三线	3L: Three phases and three wires	3L: Three phases and three wires
4L: 三相四线	4L: three phases and four wires	4L: three phases and four wires
系统电压: 415V, 690V	System voltage: 415V, 690V	System voltage: 415V, 690V
谐波电流: 50A、75A、100A、150A、200A、300A、600A、800A	Harmonic current: 50A, 75A, 100A, 150A, 200A, 300A, 600A, 800A	Harmonic current: 50A, 75A, 100A, 150A, 200A, 300A, 600A, 800A
APF 有源电力滤波器	APF active power filter	APF active power filter

技术参数

	名称 name	项目描述 Project description
电气规格	容量 (根据机型) Capacity (by model)	30A/50A/75A/100A/150A/200A
Electrical specification	输入线电压 Input line voltage	380V ± 15%
	补偿电流 (每相) Compensating current (per phase)	30A~150A (根据机型 By model)
	补偿谐波次 Compensating harmonic order	2 ~ 60 次 time(可设置 Can set)
	全响应时间 Full response time	≤ 2.3ms
	效率 efficiency	高达 98% Up to 98%
	干接点 Dry contact	EPO/DI/DO
通信接口	通信协议 Communication protocol	RS232/RS485/Ethernet/GPRS
环境要求	工作温度 Operating temperature	-45°C ~ 55°C
结构结构	模块重量 Module weight	20KG ~ 46KG
	冷却方式 Cooling mode	智能风冷 Intelligent air cooling

外形尺寸

APF 机架式模块外形安装尺寸 APF rackmount module outline mounting dimensions



模块容量 Module capacity	25A	50A	75A	100A	150A	200A	100	150
模块电压 Module voltage	380V/400V							660V/690V
L (mm)	530	530	530	570	640	660	610	660
W (mm)	470	470	470	500	500	530	530	530
H (mm)	180	180	200	240	240	280	280	280
重量 Weight (kg)	26	26	30	37	47	55	63	75

备注：以上参数为典型值供参考，可根据客户要求定做，我公司保留对数据的变更权利。

Note: The above parameters are typical values for reference, can be customized according to customer requirements, our company reserves the right to change the data.

APF

有源滤波装置

Active filter device



APF 有源滤波装置是动态滤除谐波的新一代谐波治理解决方案，采用先进的动态实时跟踪补偿方式消除电网谐波，通过实时监测由非线性负载所产生的电流波形，分离出谐波部分，将大小相等，方向相反的谐波电流注入到电网中，实现滤除谐波的功能。各项技术性能指标均达到国内外同类产品同等水平，成本和技术都有革命性突破，新型工艺设计使机器体积大大减小，节省了机房宝贵的空间，大大降低了企业用户使用有源滤波器技术的门槛。

APF active filter device is a new generation of harmonic control solution for dynamic filtering of harmonics. It adopts advanced dynamic real-time tracking compensation to eliminate harmonics in the power grid. By real-time monitoring of the current waveform generated by nonlinear load, it separates the harmonic part and infuses the equal and opposite harmonic current into the power grid to achieve the function of filtering harmonics. The technical performance indicators have reached the same level of similar products at home and abroad, and the cost and technology have revolutionary breakthroughs. The new process design greatly reduces the volume of the machine, saves valuable space in the computer room, and greatly reduces the threshold for enterprise users to use active filter technology.



实时监测 Real-time monitoring

APF 实时监测配电系统的电能质量，通过监控系统，可实时读取电网侧、负载侧的 THDi 和 THDu、各相电流大小、补偿前后效果波形图及有源电力滤波器发出的补偿电流大小、波形等一系列电能质量数据，操作简单，读取数据方便。

APF monitors the power quality of the distribution system in real time. Through the monitoring system, a series of power quality data such as THDi and THDu on the power grid side and load side, the current size of each phase, the waveform diagram of the effect before and after compensation, the compensation current size and waveform issued by the active power filter can be read in real time, which is simple to operate and convenient to read.

工作原理 Working principle

APF 是一种基于电流检测和电流注入技术的大功率电力电子装置。工作原理为：通过实时检测负载电流波形，得到需要补偿的谐波电流成分，并将其反向，通过控制 IGBT 的触发，将反向电流注入供电系统，实现滤除（抵消）谐波功能，从而提高电气系统安全可靠性、达到节能增效的目的，APF 可以被看作是一个电流源，在主连接处提供一个谐波电流，这个谐波电流与非线性负载产生的总谐波电流是反向的。在连接 APF 有源滤波装置和负荷之前，网络仍然以基波电流运行。

因为 APF 有源滤波装置的补偿电流是有规则的，因此其补偿质量是独立于网络阻抗和由电压谐振、下降、闪变引起的电源电压失真。补偿电流的内部界定是防止由过电流引起的设备破坏，其他也连接在电源上的负荷并没有由于并联有源滤波而受到影响。这些尤其应用在脉动控制系统。

APF is a high power electronic device based on current detection and current injection technology. The working principle is: By detecting the load current waveform in real time, harmonic current components that need to be compensated are obtained and reversed. By controlling the triggering of IGBT, the reverse current is injected into the power supply system to filter (offset) harmonics, thereby improving the safety and reliability of the electrical system and achieving the purpose of energy saving and efficiency. APF can be regarded as a current source. A harmonic current is provided at the main connection and this harmonic current is reversed from the total harmonic current generated by the nonlinear load. The network still operates at fundamental current until the APF active filter device and load are connected. Because the compensation current of APF active filter device is regular, its compensation quality is independent of the network impedance and the power supply voltage distortion caused by voltage resonance, drop and flicker. The internal definition of compensation current is to prevent equipment damage caused by overcurrent, and other loads that are also connected to the power supply are not affected by shunt active filter. These are especially applied to pulsation control systems.

技术参数 Technical parameter

谐波补偿 Harmonic compensation

谐波电流 Harmonic current	50A/100A/150A/200A/300A~800A(可定制) 模块、柜式自由并联扩展容量
输入 input	50A/100A/150A/200A/300A to 800A(customizable) Module and cabinet free parallel expansion capacity
接线方式 Connection mode	三相三线 / 三相四线 Three-phase three-wire/three-phase four-wire
工作电压 Operating voltage	380V-40%~+20%
工作频率 Operating frequency	50Hz-10%~+10%
性能指标 Performance index	
整机效率 Overall efficiency	> 97%
滤波能力 Filtering capability	THDi(电流畸变率 Current distortion rate) < 5%
滤波范围 Filter range	2~50 次
响应时间 Response time	< 300μs
全响应时间 Full response time	< 10ms
中性线滤波能力 Neutral filter capability	3 倍于相线 3 times the phase line
IGBT 频率 IGBT frequency	30kHz(等效频率 Equivalent frequency)
自诊断及保护功能 Self-diagnosis and protection functions	有 have
通讯接口 Communication interface	RS232 RS485
通讯协议 Communication protocol	Modbus 协议 Modbus protocol
安装方式 Installation mode	壁挂 / 机架 Wall mount/rack
防护等级 Class of protection	IP30
防雷保护 Lightning protection	20kV
可并联台数 Number of parallel units	不限 Unlimited
CT 互感器 CT transformer	100/5~4000/5
环境条件 Environmental condition	
环境温度 Ambient temperature	0°C ~40°C
储存温度 Storage temperature	-20°C ~70°C
相对湿度 Relative humidity	最大 95%，无凝露 Max 95%，no condensation
海拔高度 Altitude	≤ 1500m, 1500~4000m 之间, 根据国标 GB/T3859.2, 每增加 100m, 功率降低 1% ≤ 1500m, between 1500 and 4000m, according to the national standard GB/T3859.2, each increase of 100m, the power is reduced by 1%

SVG

静止无功发生器

Static reactive power generator



静止无功发生器主要用于无功功率补偿，提高功率因数，优化电能质量。SVG 涵盖 30kVar, 50kVar, 75kVar, 100kVar, 150kVar, 规格型号产品，具有连续可调的补偿输出，极好的解决了传统无功补偿器台阶式补偿的缺点。

The static reactive power generator is mainly used for reactive power compensation, improving power factor and optimizing power quality. series SVG covers 30kVar, 50kVar, 75kVar, 100kVar, 150kVar, specifications and models, with continuous adjustable compensation output, excellent solution to the shortcomings of traditional reactive power compensator step compensation.



型号含义 Model Meanings

SVG - □ - □ - □ - □	M: 机架式模块 ; H: 壁挂式 ; C: 整柜式
3L	3相三线
4L	3相四线
系统电压: 415V, 690V	System voltage: 415V, 690V
补偿容量: 30kVar、50kVar、75kVar、100kVar、150kVar	Compensation capacity: 30kVar, 50kVar, 75kVar, 100kVar, 150kVar
静止无功发生器	Static reactive power generator

M: rack-mounted module; H: wall-mounted; C: Full cabinet type
 3L: Three phases and three wires
 4L: three phases and four wires
 System voltage: 415V, 690V
 Compensation capacity: 30kVar, 50kVar, 75kVar, 100kVar, 150kVar
 Static reactive power generator

技术参数 Technical parameter

名称 Name	项目描述 Project description	
电气规格 Electrical specification	容量 (根据机型) Capacity (by model)	30KVar/50KVar/75KVar/100KVar/150KVar
	输入线电压 Input line voltage	380V ± 15%
	补偿谐波阶次 Compensating harmonic order	2 ~ 13 次 (可设置 Can set)
	全响应时间 Full response time	≤ 7.8ms
	效率 efficiency	高达 98% Up to 98%
通信接口 Communication interface	干接点 Dry contact	EPO/DI/DO
环境要求 Environmental requirement	通信协议 Communication protocol	RS232/RS485/Ethernet/GPRS
结构 structure	工作温度 Operating temperature	-45°C ~ 55°C
	模块重量 Module weight	20KG ~ 46KG
	冷却方式 Cooling mode	智能风冷 Intelligent air cooling

应用领域 Application field

医院、银行、通信行业、数据计算中心、电气化铁道及轨道交通行业、石油和天然气行业、汽车行业、水处理行业、矿山、造船业、纺织行业、市政、企业自动化生产线、办公大楼及商业大厦、住宅大厦、供配电系统等。

Hospitals, banks, communications industry, data computing center, electrified railway and rail transit industry, oil and gas industry, automobile industry, water treatment industry, mining, shipbuilding, textile industry, municipal administration, enterprise automated production lines, office and commercial buildings, residential buildings, power supply and distribution systems, etc.

选型注意事项 Selection precautions

SVG 模块化 SVG 适用于大部分工业、民用领域。对于冲击性负载、交流电压幅值波动大于 15%、系统进线电压谐波超过 12% 以上的工况条件，建议选用尼古拉斯科技整柜一体化 SVG。

SVG Modular SVG is suitable for most industrial and civil fields. For the working conditions of impact load, AC voltage amplitude fluctuation of more than 15%, and system incoming voltage harmonics of more than 12%, it is recommended to choose Nicholas technology integrated SVG.

SVG

静止无功发生装置

Static reactive power generator

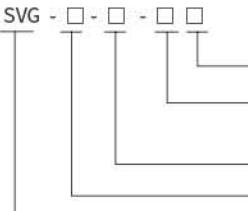


静止无功发生装置是采用现代电力电子技术和基于高速 DSP 器件的数字信号处理技术制成的新型无功补偿专用设备。它由指令电流运算电路和补偿电流发生电路两个主要部分组成。指令电流运算电路实时监视线路中的电流，并将模拟电流信号转换为数字信号，送入高速数字信号处理器 (DSP) 对信号进行处理，来分析负载电流的无功含量，并以脉宽调制 (PWM) 信号形式向补偿电流发生电路送出驱动脉冲，驱动 IGBT 或 IPM 功率模块，产生满足要求的无功补偿电流，并将无功补偿电流注入电网，从而实现动态无功补偿目的。

Static reactive power generator is a new type of special equipment for reactive power compensation made of modern power electronic technology and digital signal processing technology based on high-speed DSP devices. It consists of two main parts: command current operation circuit and compensation current generation circuit. The command current operation circuit monitors the current in the line in real time, converts the analog current signal into digital signal, sends the signal to the high-speed digital signal processor (DSP) for processing, analyzes the reactive power content of the load current, and sends the drive pulse to the compensation current generating circuit in the form of pulse width modulation (PWM) signal to drive the IGBT or IPM power module. The reactive compensation current that meets the requirements is generated and injected into the power grid to realize the purpose of dynamic reactive compensation.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model Meanings



M: 机架式模块；H: 壁挂式；C: 整柜式
3L: 三相三线
4L: 三相四线
系统电压: 415V, 690V
补偿容量: 30kVar, 50kVar, 75kVar, 100kVar, 150kVar
200kVar, 300kVar, 400kVar, 500kVar, 600kVar
静止无功发生装置

M: rack-mounted module; H: wall-mounted; C: Full cabinet type
3L: Three phases and three wires
4L: three phases and four wires
System voltage: 415V, 690V
Compensation capacity: 30kVar, 50kVar, 75kVar, 100kVar, 150kVar
200kVar, 300kVar, 400kVar, 500kVar, 600kVar
Static reactive power generator

使用条件 Conditions of use

- 温度: 周围空气温度不超过 +40°C, 周围空气温度下限不超过 -5°C;
- 湿度: 最高温度为 +40°C 时, 空气的相对湿度不超过 50%, 在较低的温度下可以允许较高的相对湿度, 例如, +20°C 时达 90%;
- 海拔: 安装地点的海拔不超过 2000m, 高海拔产品可定制;
- 安装类别: II 类;
- 污染等级: 3 级;
- 额定工作电压: 230V 400V;
- 额定工作电流: 630A;
- 额定短路分段能力: 80kA;
- 外壳防护等级: IP55。

- Temperature: ambient air temperature does not exceed +40 °C, the lower limit of ambient air temperature does not exceed -5°C;
- Humidity: When the maximum temperature is +40 °C, the relative humidity of the air does not exceed 50%, and higher relative humidity can be allowed at lower temperatures, for example, 90% at +20°C;
- Altitude: The altitude of the installation site does not exceed 2000m, high altitude products can be customized;
- Installation category: Class II;
- Pollution level: Level 3;
- Rated working voltage: 230V 400V;
- Rated working current: 630A;
- Rated short-circuit segment capacity: 80kA;
- Shell protection grade: IP55.

产品规格 Product specification

额定容量 Rated capacity	35kVar	50kVar	75kVar	100kVar	200kVar	300kVar	400kVar
额定电压 Rated voltage	AC380V±1.5%/AC690V±1.5%						
电气接线 Electrical connection	三相三线、三相四线 Three-phase three-wire, three-phase four-wire						
控制电容器组方式 Control capacitor bank mode	节点控制: 12 路输入 +12 路输出通讯; 控制: RS485 连接, MODBUS 通讯协议 Node control: 12 input +12 output communication; Control: RS485 connection, MODBUS communication protocol						
补偿设定 Compensation setting	无功补偿、三相不平衡、谐波滤除设定 Reactive power compensation, three-phase unbalance, harmonic filtering Settings						
保护功能 Protection function	失压保护、负载过流保护、补偿过流保护、系统电压保护、直流电压保护 Voltage loss protection, load overcurrent protection, compensation overcurrent protection, system voltage protection, DC voltage protection						
响应时间 Response time	≤ 10ms						
装置功率损耗 Plant power loss	额定满载运行时, 损耗不超过 2% 额定功率 When the rated full load operation, the loss does not exceed 2% of the initial point power						

SVG+APF

混合综合滤波装置

Hybrid integrated filter device



混合综合滤波装置是一种用于无功补偿、滤除谐波，提高功率因数，实现无极补偿效果的新型的电力电子装备；智能控制系统主动根据系统的线性动态需求，自动调节有源及无源模块输出的变比。整机通过 7 寸触摸屏实现人机交互。

The hybrid integrated filter device is a new type of power electronic equipment which is used for reactive power compensation, filtering harmonics, improving power factor and realizing the effect of non-polar compensation. The intelligent control system automatically adjusts the output ratio of active and passive modules according to the linear dynamic requirements of the system. The machine implements human-machine interaction through a 7-inch touch screen.



型号含义 Model Meanings



3L: Three phases and three wires
4L: three phases and four wires
System voltage: 415V, 690V
Harmonic current: 50A, 75A, 100A, 150A, 200A, 300A, 400A
Compensation capacity: 30kVar, 50kVar, 75kVar, 100kVar, 150kVar, 200kVar, 300kVar, 400kVar, 600kVar
Active filter device
Static reactive power generator

技术参数 Technical parameter

- 工作电压: 额定电压 400V±15%;
- 工作频率: 50Hz±5%;
- 装置功率损耗: <3% 额定视在功率;
- 治理谐波次数: 2~25 次谐波 (可以选择性滤波, 各次谐波补偿可分别设定);
- 谐波治理率: >90%, 补偿率: >90%,
- 装置拓扑结构: 三 H 桥式结构。
- 开关频率: 25.6kHz;
- 功率因数: >95%,
- 响应时间: ≤ 10ms;
- 过载能力: 120% (1min) ;
- 噪音: ≤ 65dB (额定工况下 1m 距离) ;
- 防护等级: IP30 (设有防直漏措施) ;
- 制冷方式: 强制风冷;
- 人机界面: 采用 7 寸背光式液晶显示器, 手动自动操作;
- 通讯规约: 采用 Modbus 远程通讯协议; 通信接口: RS485/RS232。

- Operating voltage: rated voltage 400V±15%;
- Operating frequency: 50Hz±5%;
- Device power loss: <3% rated apparent power;
- Harmonic control frequency: 2~25 harmonics (can be selectively filtered, each harmonic compensation can be set separately);
- Harmonic control rate: >90%, compensation rate: >90%,
- Device topology: three-H bridge structure.
- Switching frequency: 25.6kHz;
- Power factor: >95%,
- Response time: ≤ 10ms;
- Overload capacity: 120% (1min);
- Noise: ≤ 65dB (1m distance under rated working conditions);
- Protection level: IP30 (with anti-straight leakage measures);
- Cooling method: forced air cooling;
- Man-machine interface: 7-inch backlit LCD display, manual automatic operation;
- Communication protocol: Modbus remote communication protocol; Communication interface: RS485/RS232.

保护措施 Protective measure

- 快熔保护
- 失电压、过电压保护 (防止重合闸来电冲击)
- 电压、电流硬件、软件双重保护
- 过温保护开关
- 设备软启动功能

- Fast melting protection
- Voltage loss, overvoltage protection (to prevent reclosing incoming calls)
- Voltage, current hardware, software dual protection
- Overtemperature protection switch
- Device soft start function

SVG+APF 组合设计容量 SVG+APF combined design capacity

- 柜体尺寸根据设计要求 ,APF 模块安装在柜体内, 配置进线断路器与快熔。
- SVG 补偿容量为 100kVar~600kVar 任意组合 ;APF 模块容量分别为 30A~400A。
- 背面通风设计, 开具通风过滤网孔。
- 投切由 SVG、APF 控制, 更具智能化优点是性价比高、结构简单、便于维护、将来扩容、运行噪音小。

- Cabinet size According to the design requirements, the APF module is installed in the cabinet, equipped with incoming circuit breaker and fast melting.
- SVG compensation capacity of 100kVar~600kVar any combination; The capacity of APF modules ranges from 30A to 400A.
- Back ventilation design, open ventilation filter holes.
- Switching by SVG, APF control, more intelligent advantages are cost-effective, simple structure, easy maintenance, future expansion, low noise operation.

6kV/10kV/35kV SVG

高压无功补偿装置 (户内外风冷)

High voltage reactive power compensation device

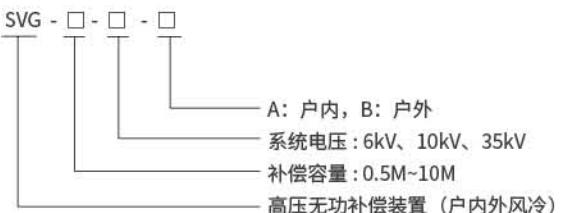


SVG 系列高压动态无功补偿装置是以 IGBT 为核心的无功补偿系统，能够快速连续地提供容性或感性无功功率，实现考核点恒定无功、恒定电压和恒定功率因数等控制，保障电力系统稳定、高效地运行。在配电网中，将中小容量的 SVG 产品安装在某些特殊负荷（如电弧炉、中频炉、精炼炉）附近，可以显著地改善负荷与公共电网连接点处的电能质量，例如提供功率因数、平衡三相电压、抑制电压闪变和电压波动、治理谐波污染等。

SVG series high voltage dynamic reactive power compensation device is a reactive power compensation system with IGBT as the core, which can quickly and continuously provide capacitive or inductive reactive power, realize the control of constant reactive power, constant voltage and constant power factor at the test point, and ensure the stable and efficient operation of the power system. In the distribution network, the installation of small and medium capacity SVG products near some special loads (such as electric arc furnaces, intermediate frequency furnaces, refining furnaces) can significantly improve the power quality at the connection point between the load and the public grid, such as providing power factor, balancing three-phase voltage, suppressing voltage flicker and voltage fluctuation, and controlling harmonic pollution.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model Meanings



A: indoors, B: outdoors

System voltage: 6kV, 10kV, 35kV

Compensation capacity: 0.5M~10M

High voltage reactive power compensation device (indoor and outdoor air cooling)

规范与标准 Codes and standards

GB 156-2007	标准电压
GB 7251.1-2005	部分型式试验成套设备
GB/T 1980-2005	标准频率
GB/T 2423.10-2008	电工电子产品环境试验 第2部分：试验方法试验Fc: 振动(正弦)
GB/T 7947-2006	人机界面标志标识的基本和安全规则 导体的颜色或数字标识
GB/T 4025-2003	人机界面标志标识的基本和安全规则 指示器和操作器的编码规则
GB/T 2900.1-2008	电工术语 基本术语
GB/T 2900.33-2004	电工术语 电力电子技术
GB/T 3797-2005	电气控制设备
GB/T 3859.1-1993	半导体变流器 基本要求的规定
GB/T 3859.2-1993	半导体变流器 应用导则
GB/T 3859.3-1993	半导体变流器 变压器和电抗器
GB 4208-2008	外壳防护等级 (IP 代码)
GB/T 4588.1-1996	无金属化孔单双面印制板分规范
GB/T 4588.2-1996	有金属化孔单双面印制板分规范
GB 9969-2008	工业产品使用说明书 总则
GB/T 10233-2005	低压成套开关设备和电控设备基本试验方法
GB/T 14436-1993	工业产品保证文件 总则
GB/T 15139-1994	电工设备结构总技术要求
GB/T 13422-1992	半导体电力变流器电气试验方法
GB/T 191-2008	包装储运图志标
GB/T 4798.1-2005	电工电子产品应用环境条件 第1部分：贮存
GB/T 4798.2-2008	电工电子产品应用环境条件 第2部分：运输
GB/T 14549-1993	电能质量 公用电网谐波
GB/T 12325-2008	电能质量 供电电压偏差
GB/T 12326-2008	电能质量 电压波动和闪变
GB/T 18481	电能质量 暂时过电压和瞬态过电压
GB/T 15543-2008	电能质量 三相电压不平衡
GB/T 3859.4-2004	半导体变流器 包括直接直流交流器的半导体自换相交流
GB 12668.3-2003	调速电气传动系统

GB 156-2007 Standard voltage
GB 7251.1-2005 Part type test equipment
GB/T 1980-2005 standard frequency
GB/T 2423.10-2008 Environmental tests for electrical and electronic products - Part 2: Test methods - Test Fc: Vibration (sinusoidal)
GB/T 7947-2006 man-machine interface markings Basic and safety rules for identification Conductor color or digital identification
GB/T 4025-2003 Man-machine interface marking Basic and safety rules for marking indicators and operators coding rules
GB/T 2900.1-2008 Electrical terminology Basic terminology
GB/T 2900.33-2004 Electrical terminology for power electronic technology
GB/T 3797-2005 Electrical control equipment
GB/T 3859.1-1993 Specification of basic requirements for semiconductor converters
GB/T 3859.2-1993 Guidelines for application of semiconductor converters
GB/T 3859.3-1993 Semiconductor converter transformers and reactors
GB 4208-2008 Enclosure Protection Class (IP code)
GB/T 4588.1-1996 Section specification for single and double sided printed boards without metallized holes
GB/T 4588.2-1996 Section specification for single and double sided printed boards with metallized holes
GB 9969-2008 General instructions for the use of industrial products
GB/T 10233-2005 Basic test methods for low-voltage switchgear and electronic control equipment
GB/T 14436-1993 General Rules for industrial product assurance documents
GB/T 15139-1994 General technical requirements for structure of electrical equipment
GB/T 13422-1992 Electrical test methods for semiconductor power converters
GB/T 191-2008 packaging storage and transportation drawing mark
GB/T 4798.1-2005 Electrical and electronic products application environmental conditions - Part 1: Storage
GB/T 4798.2-2008 Electrical and electronic products application environmental conditions - Part 2: Transport
GB/T 14549-1993 Power quality public grid harmonics
GB/T 12325-2008 Power quality Power supply voltage deviation
GB/T 12326-2008 Power quality Voltage fluctuation and flicker
GB/T 18481 Power quality Temporary overvoltage and transient overvoltage
GB/T 15543-2008 Power quality Three-phase voltage imbalance
GB/T 3859.4-2004 Semiconductor converters include semiconductor self-commutating AC for direct DC AC
GB 12668.3-2003 Speed regulating electric drive system

GGJ

低压无功智能补偿装置

Low voltage reactive power intelligent compensation device



本装置优化功率因数，减损提效，增强变压器负载能力，显著节能。特配电抗器防谐波放大，吸收谐波电流，确保谐波指标达标。相较于普通接触器，动态无功补偿装置避免浪涌电流，补偿迅速，维护成本低，寿命长。推荐用于工矿变电所、车间及民用建筑低压电网，尤适负荷多变、无功不稳的输配电系统。产品符合 GB/T15576-2008 及 IEC60439 等标准。

The device optimizes power factor, reduces loss and improves efficiency, enhances transformer load capacity and saves energy significantly. The special reactor prevents harmonic amplification, absorbs harmonic current, and ensures that the harmonic index reaches the standard. Compared with ordinary contactors, dynamic reactive power compensation devices avoid inrush current, fast compensation, low maintenance cost and long service life. It is recommended for low-voltage power grids in industrial and mining substations, workshops and civil buildings, especially for transmission and distribution systems with variable load and unstable reactive power. Products comply with GB/T15576-2008 and IEC60439 and other standards.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model Meanings

GGJ - □ - □ / □ · □	接线方式	Connection mode
	电压等级	Voltage level
	补偿容量	Compensating capacity
	补偿方便	Compensation convenience
	补偿柜	Compensating tank

产品特点 Product Features

- 通用性能强。该补偿柜可与国内外各种任意柜体进行组合，如 MNS、GCK、GGD 等；
- 电容补偿组合方式多样灵活。具有 Y 型补偿方式、A 型补偿方式、Y+A 组合补偿方式；
- 通讯方式多样性。具备 RS-232/485 通讯接口，无线数传模块或 GPRS 模块实行远距离通讯；
- 控制准确安全。实行电压过零触发，投入时无浪涌电流过零切除，分断时不产生高压；
- 使用寿命长，在免维护下，使用寿命长达 10 万小时以上。

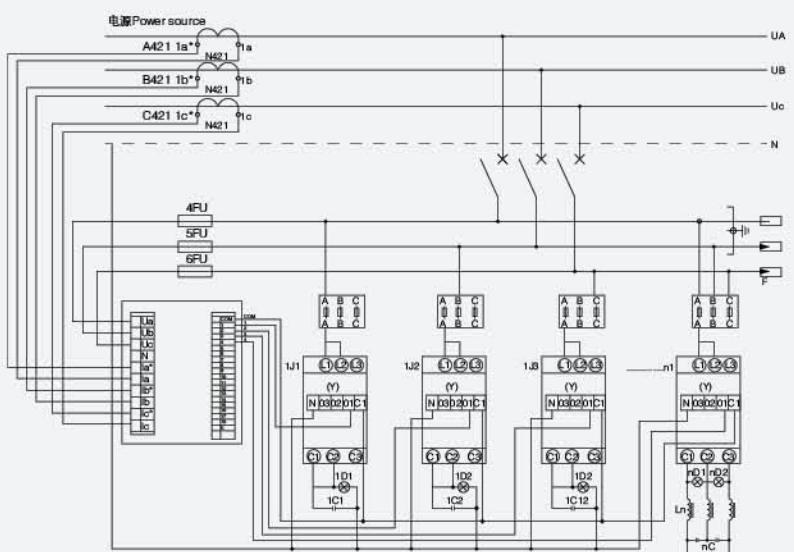
- Strong universal performance. The compensation cabinet can be combined with various cabinets at home and abroad, such as MNS, GCK, GGD, etc.
- Capacitor compensation combination is diversified and flexible. It has Y-type compensation mode, A-type compensation mode and Y+A combination compensation mode.
- Diversity of communication methods. With RS-232/485 communication interface, wireless digital transmission module or GPRS module for long-distance communication;
- Accurate and safe control. Voltage zero trigger, no inrush current zero resection when putting into operation, no high voltage when breaking off;
- Long service life, with maintenance free service life of more than 100,000 hours.

正常使用条件 Normal service condition

- 环境温度: -5°C ~ +40°C；
- 环境相对湿度: 不超过 90%(20°C)；
- 海拔高度: 不超过 2000m，高海拔产品可定制；
- 周围环境: 周围介质无爆炸危险，无足以损坏及腐蚀金属的气体，无导电尘埃，安装地不宜剧烈振动，无雨雪侵蚀。

- Ambient temperature: -5°C ~ +40°C ;
- Ambient relative humidity: no more than 90%(20°C) ;
- Altitude: no more than 2000m, high altitude products can be customized;
- Surrounding environment: the surrounding medium has no explosion risk, no gas that can damage and corrode the metal, no conductive dust, the installation site should not be violently vibrated, and no rain and snow erosion.

装置系统原理举例 Examples of device system principles



GGD

低压成套开关柜

Low-voltage switchgear set

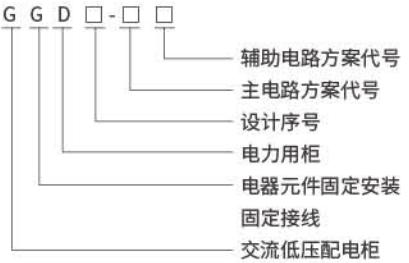


GGD 交流低压配电柜专为发电厂、变电站及工矿企业设计，适用于 50Hz、380V、电流至 3150A 的配电系统。它集动力、照明及配电设备转换、分配与控制功能于一体，设计遵循安全、经济、可靠原则，具备高分断能力、良好动热稳定性、灵活电气方案、便捷组合、高防护等级等特点，符合 IEC439 及 GB7251 等标准，是低压成套开关设备的优选升级产品。

GGD AC low-voltage distribution cabinet is designed for power plants, substations and industrial and mining enterprises, suitable for 50Hz, 380V, current to 3150A distribution system. It integrates power, the conversion, distribution and control functions, lighting and distribution equipment, and is designed in accordance with the principles of safety, economy and reliability. It has the features of high breaking capacity, good dynamic and thermal stability, flexible electrical scheme, convenient combination and high protection level, etc. It conforms to the standards of IEC439 and GB7251, and it is the preferred upgraded product of low-voltage switchgear.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model Meanings



辅助电路方案代号
Auxiliary circuit scheme code
 主电路方案代号
Main circuit scheme code
 设计序号
Design sequence number
 电力用柜
Electric power cabinet
 电器元件固定安装
Fixed installation of electrical components
 固定接线
Fixed connection
 交流低压配电柜
Ac low-voltage power distribution cabinet

正常使用条件 Normal service condition

- 空气温度: 不高于 +40°C, 不低于 -5°C, 24h 内的平均温度不得高于 +35°C;
- 海拔高度: 不得超过 2000m, 高海拔产品可定制;
- 空气湿度: 在最高温度为 +40°C 时不超过 50%, 应在较低温度时允许有较大的相对湿度 (例如 +20°C 时为 90%) 考虑到由于温度的变化可能会偶然产生凝露的影响;
- 设备安装时与垂直面的倾斜度不超过 5°;
- 设备应安装在无剧烈震动和冲击的地方, 以及不足以使电器元件受到腐蚀的场所;
- 用户有特殊要求时可与制造厂协商解决。

- Air temperature: not higher than +40 °C, not lower than -5 °C, the average temperature within 24 hours shall not be higher than +35°C ;
- Altitude: not more than 2000m, high altitude products can be customized;
- Air humidity: no more than 50% at the maximum temperature of +40°C , a larger relative temperature should be allowed at lower temperatures (e.g. 90% at +20 °C), taking into account the effect of condensation that may occasionally occur due to changes in temperature;
- The inclination between the equipment installation and the vertical plane shall not exceed 5° ;
- The equipment shall be installed in a place free from violent vibration and impact, and in a place where the electrical components are not corroded;
- The user can negotiate with the manufacturer to solve the special requirements.

主要技术参数 Main technical parameters

型号 Model number	额定电压 Rated voltage (V)	额定电流 Rated current (A)		额定短路开断电流 Rated short circuit breaking current (kA)	额定短时耐受电流 Rated short-time withstand current (1s)(kA)	额定峰值耐受电流 Rated peak withstand current (kA)
GGD1	380	A	1000	15	15	30
GGD1	380	B	600(630)	15	15	30
GGD1	380	C	400	15	15	30
GGD2	380	A	1500(1600)	30	30	63
GGD2	380	B	1000	30	30	63
GGD2	380	C	600	30	30	63
GGD3	380	A	3150	50	50	105
GGD3	380	B	2500	50	50	105
GGD3	380	C	2000	50	50	105

GCS

低压抽出式开关柜

Low voltage draw-out switchgear

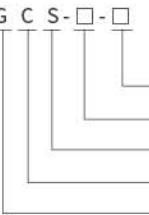


GCS 低压抽出式开关柜装置适用于发电厂、石油、化工、冶金、纺织、高层建筑等行业的配电系统。在大型发电厂、石化系统等自动化程度高，要求与计算机接口的场所，作为三相交流频率为 50(60)Hz，额定工作电压为 380V(400V), (660V), 额定电流为 4000A 及以下的发、供电系统中的配电、电动机集中控制、无功功率补偿使用的低压成套配电装置。

GCS low-voltage draw-out switchgear is suitable for power plant, petroleum, chemical, metallurgy, textile, high-rise building and other industries of the power distribution system. In large power plants, petrochemical systems and other places with a high degree of automation and requiring computer interface, as a three-phase AC frequency of 50(60)Hz, The rated operating voltage is 380V(400V), (660V), and the rated current is 4000A and below in the power distribution system, motor centralized control, reactive power compensation for the use of low-voltage power distribution devices.



型号含义 Model Meanings



主电路方案号	Main circuit scheme number
辅助电路方案号	Auxiliary circuit scheme number
电气系统	Electrical system
抽出式	Drawout type
封闭式开关柜	Enclosed switchgear

装置特点 Device characteristics

- 提高转接件的热容量，较大幅度的降低由于转接件的温升给接插件、电缆头、间隔板带来的附加温升；
- 功能单元之间、隔室之间的分隔清晰、可靠，不因某一单元的故障而影响其它单元工作，使故障局限在最小范围；
- 母线平置式排列使装置的动、热稳定性好，能承受 80/176kA 短路电流的冲击；
- MCC 柜单柜的回路数量多到 22 回，充分考虑大单机容量发电，石化系统等行业自动化电动门(机)群的需要；
- 装置与外部电缆的连接在电缆隔室中完成，电缆可以上下进出。电流互感器装置于电缆隔室内，使安装维修方便；
- 同一电源配电系统，可以通过限流电抗器匹配限制短路电流，稳定母线电压在一定的数值，还可部分降低对元器件短路强度的要求；
- 抽屉单元有足够数量的二次插接件 (1 单元及以上为 32 对，1/2 单元为 20 对)，可满足计算机接口和自控回路对接点数量的要求。

- Improve the heat capacity of the adapter, and greatly reduce the additional temperature rise caused by the temperature rise of the adapter to the connector, cable head and partition;
- The separation between functional Units and compartments is clear and reliable, and the fault of one Unit will not affect the work of other Units, so that the fault is limited to the minimum range;
- The flat arrangement of bus bars makes the device have good dynamic and thermal stability and can withstand the impact of 80/176kA short circuit current;
- The number of circuits in a single MCC cabinet is up to 22 times, fully considering the needs of large single capacity power generation, petrochemical systems and other industries automated electric door (machine) groups;
- The connection between the device and the external cable is completed in the cable compartment, and the cable can be moved up and down. The current transformer is installed in the cable compartment to facilitate installation and maintenance;
- The same power distribution system can match the current limiting reactor to limit the short circuit current, stabilize the bus voltage at a certain value, and partially reduce the requirement on the short circuit strength of components;
- The drawer Unit has a sufficient number of secondary connectors (32 pairs for 1 Unit and above, 20 pairs for 1/2 Unit) to meet the requirements of the number of contact points of the computer interface and automatic control loop.

主要技术参数 Main technical parameters

项目 Item	单位 Unit	参数 Argument
主电路额定电压 Rated voltage of main circuit	V	交流 communication 380(400)、(660)
额定频率 Rated frequency	Hz	50(60)
额定绝缘电压 Rated insulation voltage	V	660(1000)
额定电流 Rated current	A	≤ 4000
母线额定短时耐受电流 Bus bar rated short-time withstand current		1000
母线额定峰值耐受电流 Bus rated peak withstand current	kA/0.1s	50,80
工频试验电压 Power frequency test voltage	V/1min	105,176
母线 Bus bar		2500
防护等级 Protection level		1760
		A, B, C, PEN
		A, B, C, PE, N
		IP30, IP40

MNS

低压抽出式开关柜

Low voltage draw-out switchgear



MNS 低压抽出式开关柜是一种用标准模块由工厂组装 (FBA) 的组合式柜型，其技术已达到国际先进水平。

MNS 低压抽出式开关柜适用于发电厂、变电站、石油化工、冶金轧钢、交通能源、轻工纺织等厂矿企业和住宅小区、高层建筑等场所。作为交流 50~60Hz，额定工作电压交流 660V 及以下的电力系统的配电设备的电能转换、分配及控制之用。

本装置符合 GB72511《低压成套开关设备》及 JB/T9961《低压抽出式成套开关设备》国家专业标准，并符合 IEC439-1、VDE0660 第五部分等国际专业标准。

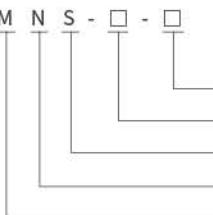
MNS low-voltage draw-out switchgear is a combination of factory-assembled (FBA) cabinet with standard modules, and its technology has reached the international advanced level.

MNS low-voltage draw-out switchgear is applicable to power plants, substations, petrochemical industry, metallurgy and steel rolling, transport and energy, light industry and textile and other factories and mining enterprises and residential communities, high-rise buildings, etc., as the power conversion, distribution and control of the power distribution equipment of the power system with rated working voltage of AC 50~60Hz, AC 660V and below.

This device is in line with the national professional standards of GB72511 Low-voltage Switchgear Complete set and JB/T9961 Low-voltage Draw-out Switchgear set, and in line with IEC439-1, VDE0660 Part V and other international professional standards.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings



主电路方案号 Main circuit scheme number
辅助电路方案号 Auxiliary circuit scheme number
电气系统 Electrical system
抽出式 Drawout type
封闭式开关柜 Enclosed switchgear

柜体结构 Cabinet structure

MNS 开关柜柜体基本结构是由 C 型材装配组成。C 型材是以 E=25mm 为模数安装孔的钢板弯制而成。全部柜架及内层隔板都作镀锌钝化处理。四周门板，侧板则作高压静电喷塑。

The basic structure of MNS switchgear cabinet is composed of C-profile assembly. Section C is made of steel plate with E=25mm module mounting hole. All cabinets and inner partitions are galvanized and purified. Around the door panels, the side panels are made of high voltage electrostatic spray.

开关柜类型 Switch cabinet type

- 动力配电中心柜 (PC)：可采用 Emax、MT、3WN、AH、ME 等系列等断路器。
- 电动机控制中心柜 (MCC)：由大小抽屉组装而成，各回路主开关采用高分断塑壳断路器或旋转式带熔断器的负荷开关。功率因数自动补偿柜 (带有手动、自动及远动功率因数补偿装置)

- Power distribution center cabinet (PC) : Emax, MT, 3WN, AH, ME and other series of circuit breakers can be used.
- Motor control center cabinet (MCC) : assembled by large and small drawers, the main switch of each circuit adopts high-break plastic-case circuit breaker or rotary load switch with fuse. Automatic power factor compensation cabinet (with manual, automatic and remote power factor compensation devices)

主要技术参数 Main technical parameters

项目 Item	单位 Unit	参数 Argument
额定绝缘电压 Rated insulation voltage	V	660(1000)
Rated operating voltage	V	380、660
主母线最大工作电流 Maximum working current of main bus	A	5000
主母线额定耐受电流 Rated withstand current of main bus	kA/1s	100
主母线额定峰值耐受电流 Rated peak withstand current of main bus	kA/0.1s	220
配电母线 (垂直母线) 最大工作电流 Maximum operating current of the distribution bus (vertical bus)	A	1000
配电母线 (垂直母线) 峰值电流 Distribution bus (vertical bus) peak current	标准型 Normal form	kA/0.1s
	加强型 enhanced	kA/0.1s
		105(最大值) (maximum value)
		176(最大值) (maximum value)

GZD(W)

(微机控制) 直流电源柜

(microcomputer control) DC power supply cabinet

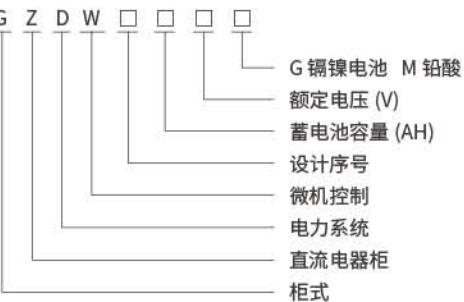


GZD(W) 系列 (微机控制) 直流电源柜是针对无人值守变电所对直流电源柜所提出的要求而研制开发的新一代替换产品。适用于大中小型发电厂和变电站，在正常运行和事故状态下的高压开关分合闸、继电保护、自动控制、事故照明等所需的直流电源。

GZD(W) series (microcomputer control) DC power supply cabinet is a new generation replacement product developed to meet the requirements of unattended substation. Suitable for large, medium and small power plants and substations, in normal operation and accident state of high voltage switch, relay protection, automatic control, accident lighting and other required DC power supply.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings



G Cadmium-nickel battery
 M Lead-acid battery
 Z Rated voltage (V)
 D Battery Capacity (AH)
 W Design sequence number
 D Microcomputer control
 E Electric power system
 C DC electrical cabinet
 () Cabinet type

功能特点 Functional characteristics

- 具有主充、均充、浮充的充电状态选择，电压方便可调。具有稳压限流及稳流限压的功能选择。
- 微机监控单元采用大屏幕、全中文液晶显示，显示内容包括电池电压、充电电流、控母电压、充电机输出电压、电流、单节电池电压及直流系统的一系列参数。
- 交流失电后重新投入，系统可根据电池的容量自动选择最佳充电方式对电池进行充电。微机监控单元退出系统后，不影响直流系统的正常运行。

- With main charge, equal charge, floating charge state selection, the voltage is convenient to adjust. It has the function of stabilizing voltage and limiting current and stabilizing current and limiting voltage.
- The microcomputer monitoring Unit adopts a large screen and all-Chinese LCD display, which includes battery voltage, charging current, controller voltage, charger output voltage, current, single battery voltage and a series of parameters of the DC system.
- After AC power loss, the system can automatically choose the best charging method to charge the battery according to the capacity of the battery. After the microcomputer monitoring Unit exits the system, it does not affect the normal operation of the DC system.

主要技术指标 Main technical index

项目 Item	参数 Argument
输入电压 Input voltage	AC380V ± 10%;
输出电压 Output voltage	DC220V、DC110V、DC48V
输出电流 Output current	10、20、30、40、50、60、100、200A
稳压精度 Voltage regulation accuracy	≤ 1%
稳流精度 Steady flow accuracy	≤ 1%
纹波系数 Ripple coefficient	≤ 1%
整机噪声 Machine noise	≤ 55db
主变温升 Main change temperature rise	≤ 60°C
工作方式 Working mode	连续工作 Continuous operation

JP

综合配电箱 (补偿 \ 控制 \ 终端 \ 照明)

Integrated distribution box
(compensation \ control \ terminal \ lighting)



JP 综合配电箱，是集计量、出线、无功补偿等多功能于一体达到户外综合配电装置，具有短路、过载、过电压、漏电保护等功能，体积小、外型美观、经济实用，安装于户外柱上变压器的电杆上，是城乡电网改造的新一代理想配电产品。

JP integrated distribution box, is a metering, line, reactive power compensation and other functions in one to reach the outdoor integrated distribution device, with short circuit, overload, overvoltage, leakage protection and other functions, small size, beautiful appearance, economic and practical, installed on the outdoor column transformer pole, is a new generation of urban and rural power grid transformation of the ideal distribution products.

型号含义 Model Meanings

JP - □ / □

主回路方案号 Main loop scheme number
变压器容量 Transformer capacity
综合配电箱 Integrated distribution box

结构特点 Structural characteristics

箱体结构分立式和卧式，外壳采用 2mm 优质不锈钢板经多重折边工艺弯制 (或采用蜂窝结构的不锈钢双夹层复合板，具有阻燃、环保、隔热、防凝露等性能)，采用特殊不锈钢焊接工艺，箱体成型后整体强度高，表面光洁如镜，不留焊缝痕迹；内部安装梁 (板) 为热镀锌工艺处理，确保二十年内不绣蚀；箱体前后开门，便于用户操作和检修，门四周镶嵌有高弹力耐老化密封胶条，每扇门均装有明暗两种门锁，明锁配以防堵防锈的遮雨罩；计量室全封闭带铅封装置；箱体侧面装有防雨防异物的进线电缆穿管，底部冲有通风孔和电缆出线孔，顶部设有通风道和丝网，具有防水、防锈、防尘、防异物的功能，防护等级：IP54。

The box structure is divided into vertical and horizontal, and the shell is made of 2mm high quality stainless steel plate bent by multiple hemming process (or stainless steel double sandwich composite plate with honeycomb structure, with flame retardant, environmental protection, heat insulation, anti-condensation and other properties), the special stainless steel welding process. The overall strength of the box is high after forming with the smooth surface like a mirror, and no weld traces are left; The internal installation beam (plate) is treated by hot-dip galvanizing process to ensure no rust within 20 years; Box front and back door are easy to operate and maintenance. The door is inlaid with high elastic anti-aging sealing strip, and each door is equipped with light and dark two kinds of door locks, open lock with anti-blocking anti-rust rain cover; The measuring room is fully enclosed with lead seal device; The side of the box is equipped with rainproof and foreign body inlet cable conduit, the bottom is flushed with a ventilation hole and cable outlet hole, the top is provided with a ventilation channel and screen, with waterproof, rust, dust, foreign body prevention functions. The protection level is IP54.

正常使用条件 Normal service condition

- 环境温度: -25°C +40°C;
- 相对湿度: 日平均值不大于 90%，月平均值不大于 90%;
- 海拔高度: 不大于 2000m，高海拔产品可定制;
- 安装场所: 无剧烈震动和冲击、无腐蚀性气体的场所。

- Ambient temperature: -25°C +40°C ;
- Relative humidity: the daily average is not more than 90%, and the monthly average is not more than 90%;
- Altitude: no more than 2000m, high altitude products can be customized;
- Installation place: no violent vibration and shock, no corrosive gas place.

主要技术参数 Main technical parameters

项目 Item	单位 Unit	参数 Argument
变压器容量 Transformer capacity	KVA	30~400
额定工作电压 Rated operating voltage	V	AC400
辅助回路工作电压 Auxiliary loop operating voltage	V	AC220, AC380
额定频率 Rated frequency	Hz	50
额定电流 Rated current	A	≤ 630
额定漏电动作电流 Rated leakage operating current	mA	30~300 可调 tunable
防护等级 Protection level		IP54

CMC

密集型母线槽系统

Intensive busbar trunking system



CMC型密集式绝缘母线槽，具有体积小，结构紧凑、强度高，最适用于高层建筑、多层工业厂房、产品工艺多变车间和变配电室等场所作为电力供电配电之用。

CMC型密集式绝缘母线槽采用高性能的连接端子，电气性能稳定，使用安全，施工、维修方便，装换快捷，其技术性能符合国家专业标准和国际电工标准的规定，外壳防护等级符合国家标准的要求。

CMC type dense insulated busbar trough, with small size, tight structure, high strength, most suitable for high-rise buildings, multi-storey industrial plants, product process workshop and power distribution room and other places as power supply and distribution.

CMC type dense insulated busbar adopts high-performance connection terminals, stable electrical performance, safe use, convenient construction and maintenance, fast installation and replacement, its technical performance meets the requirements of national professional standards and international electrical standards, and the shell protection level meets the requirements of national standards.

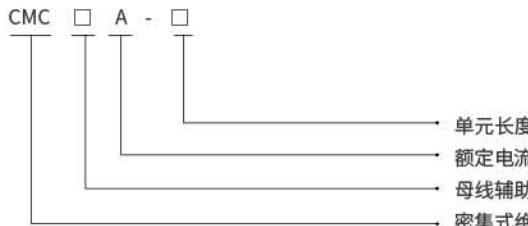
- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

概述续 Overview Continue

CMC型密集绝缘母线槽适用于交流三相四线或三相五线输配电系统。额定电流250A-5000A。结构采用优质铜制外壳，内部导体采用绝缘材料包得后紧贴在一起并与外壳接触，具有结构紧凑、散热量大的特点。特别适用于电力变压器和低压配电以及一委负载的连接等大电流输电场所使用，XK-CMC母线槽直线段标准节长度为2m或3m。插接箱最大分接电流630A。箱内安装元器件可按顾客要求任意选择。

CMC dense insulated busbar is suitable for AC three-phase four-wire or three-phase five-wire transmission and distribution system. Rated current 250A-5000A. The structure is made of high quality copper shell, and the internal conductor is enclosed by insulating material and then closely together and in contact with the shell, which has the characteristics of tight structure and large heat dissipation. Especially suitable for power transformers and low-voltage distribution and the connection of a commission load and other large current transmission sites, XK-CMC bus trough straight section standard section length of 2m or 3m. The maximum tapping current of the socket box is 630A. The components installed in the box can be selected according to customer requirements.

型号含义 Model Meanings



- 单元长度
Cell length
- 额定电流
Rated current
- 母线辅助功能
Bus assist function
- 密集式绝缘母线槽
Dense insulated busway

适用范围 Scope of application

CMC系列密集绝缘母线槽适用于交流三相四线、三相五线制，频率50~60HZ，额定电压至660V，额定工作电流250A-5000A的供配电系统，作为工矿、企事业单位和高层建筑中供配电设备的辅助设备，特别适合于车间、老企业的改造。

CMC series dense insulated busbar trough is suitable for AC three-phase four-wire, three-phase five-wire system, frequency 50~60HZ, rated voltage to 660V, rated working current 250A-5000A power supply and distribution system, as industrial and mining, enterprises and high-rise buildings in the power supply and distribution equipment auxiliary equipment, especially suitable for the transformation of workshops, old enterprises.

结构特点 Structural characteristics

- 散热能力较强
该系列母线槽相与相及相与外壳均紧贴在一起，故能承受较大的电动应力和热应力。并能将导电排所产生的热量迅速散发，载流量大。接头用绝缘栓紧固，同时采用双连接铜排连接，有效增加了接头接触面积，大大降低了接头部位温升。
- 新一代环保产品
该系列母线槽导电排缠绕有阻燃型交联聚乙烯热缩套管，具有较强的绝缘性能，在通火时无有毒气体散发。
- 布线灵活
该系列母线槽插接口设置灵活方便，可设置大量的插口，通用性较强，当调整用电设备时，无需变动供电系统。

• Strong heat dissipation capacity
This series of busbar sandalwood phase and phase and shell are closely together, so it can withstand large electric stress and thermal stress. And the heat generated by the conductive bar can be quickly dissipated, and the carrying capacity is large. The joint is fastened with insulation bolt and connected with double copper bar, which effectively increases the contact area of the joint and greatly reduces the temperature rise of the joint.

• A new generation of environmentally friendly products
The conductive bar of the busbar is wrapped with flame retardant crosslinked polyethylene heat shrink bushing, which has strong insulation performance and no toxic gas is emitted when the fire is lit.

• Flexible wiring
The busbar slot interface of this series is flexible and convenient, can be set up a large number of jacks, and has strong universality. When adjusting electrical equipment, there is no need to change the power supply system.

DFW

电缆分支箱

Cable branch box

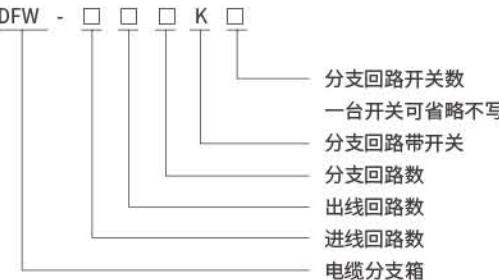


采用预制式带电可触摸硅橡胶电缆头，全密封，全绝缘，免维护，可靠保证人身安全；结构紧凑，外形小巧美观，不锈钢双层箱体，使用寿命可达二十年以上；在不影响主网运行的前提下。实现区域停电检修，减小停电范围；可配一台或多台 SF6 负荷开关。接线方式灵活多样，分支出线最多可达八回路；可选避雷器、短路故障指示器，限流熔断器等，满足用户各种要求。

Cable branch box adopts prefabricated charged touchable silicone rubber cable head, which is fully sealed, fully insulated and maintenance-free to reliably ensure personal safety; its compact structure, small and beautiful appearance and stainless steel double-layer box, so that the service life can be up to more than 20 years; in the premise of not affecting the operation of the main network, it can realize the regional blackout maintenance, reduce the scope of blackout; it can be equipped with one or more SF6 load switch. Flexible wiring, branch out is up to eight circuits; it can also be equipped with optional lightning arrester, short-circuit fault indicator, and current-limiting fuse, etc., which can satisfy various requirements of users.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

型号含义 Model Meanings



Number of branch loop switches
A switch can be omitted without writing
Branch loop with switch
Number of branch circuits
Number of outgoing routes
Number of incoming circuit
Cable branch box

功能及特点 Function & Characteristics

- 采用预制式带电可触摸硅橡胶电缆头，全密封、全绝缘、免维护，可靠保证人身安全；
- 结构紧凑，外形小巧美观，不锈钢双层箱体，使用寿命可达二十年以上；
- 在不影响主网运行的前提下，实现区域停电检修，减小停电范围；
- 可配一台或多台 SF6 负荷开关。接线方式灵活多样，分支出线最多可达 8 回路；
- 可选避雷器、短路故障指示器、限流熔断器等，满足用户各种要求。

- Adopt prefabricated live touchable silicone rubber cable head, fully sealed, fully insulated, maintenance-free, reliable to ensure personal safety;
- Compact structure, small and beautiful appearance, stainless steel double-layer box, service life of more than 20 years;
- Realize regional power outage maintenance and reduce the scope of power outage without affecting the operation of the main network;
- Can be equipped with one or more SF6 load switches. Flexible wiring mode, branch out line up to 8 loops;
- Optional lightning arrester, short circuit fault indicator, current limiting fuse, etc., to meet various requirements of users.

高压熔断器技术参数 Technical parameters of high voltage fuse

项目 Item	单位 Unit	参数 Argument
额定电压 Rated voltage	kV	12
额定电流 Rated current	A	630
工频耐压 (相地) Power frequency withstand voltage	kV/min	42
雷电冲击电压 Lightning impulse voltage	kV	75
额定开断电流 Rated breaking current	A	630
额定短路开合电流 (峰值) Rated short-circuit switching current (peak)	kA	50
额定短时耐受电流 Rated short-time withstand current	kA/4S	25
额定峰值耐受电流 Rated peak withstand current	kA	50
额定开断电容电流 Rated breaking capacitance current	A	45
额定开断电感电流 Rated breaking inductance current	A	16
满负荷开断次数 Full load breaking times		>100
分合闸机械操作次数 Number of operation of switching machine		2000

AC

光伏交流汇流箱

Photovoltaic AC bus box



该产品主要应用于集中型光伏并网发电系统中组串式逆变器的汇流，串接在组串式并网逆变器和并网计量柜之间，产品具有输入防雷、系统过流等保护，此款产品的应用减少了大量的线缆长距离传输，为用户降低成本、提高系统效率，产品通过行业标准 CCC 认证、CE 认证、ISO9001 质量管理体系认证等。

The product is mainly used in the centralized photovoltaic grid-connected power generation system of series inverter confluence, series connected between the series grid-connected inverter and grid-connected metering cabinet, the product has input lightning protection, system overcurrent protection, the application of this product reduces the long distance transmission of the large line, for the user to reduce costs, improve system efficiency, Products through the industry standard CCC certification, CE certification, ISO9001 quality management system certification.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

主要特点 Main feature

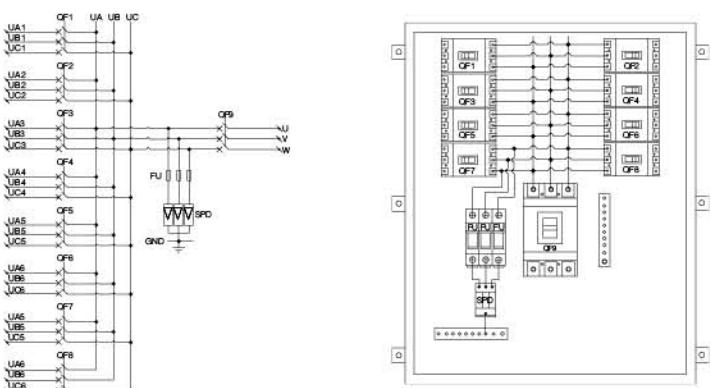
所有元器件均采用国内 / 国外知名品牌，具备权威机构认证，资质齐全；内部裸露带电部分采用阻燃、防静电、耐高温的透明罩板防护；进、出线断路器均正向垂直安装且平铺于箱体，接线一一对应，避免接错线；干路采用紫铜排连接，且铜排表面采用防腐蚀、防氧化的镀锡处理工艺；各相线采用行业内通用颜色标记，清晰醒目；可选配智能监控系统（系统电压、干路电流、开关状态、防雷状态）；适用于行业内各种电压等级：380Vac、480Vac、540Vac；防雨罩设计，室外安装。支持特殊要求及功能定制。

All components are domestic/foreign well-known brands, with authority certification, complete qualifications; The exposed live parts inside are protected by flame-retardant, anti-static and high temperature resistant transparent cover plate; The incoming and outgoing circuit breakers are vertically installed and laid on the box, and the wiring is corresponding to each other to avoid wrong wiring. The main circuit is connected by copper bar, and the surface of the copper bar is treated by anti-corrosion and anti-oxidation tinning process. Each phase line uses the industry's general color marking, clear and eye-catching; Optional intelligent monitoring system (system voltage, trunk current, switching state, lightning protection state); Applicable to various voltage levels in the industry: 380Vac, 480Vac, 540Vac; Rain cover design, outdoor installation. Support special requirements and function customization.

技术参数 Technical parameter

产品型号 Product model	AC
常见组串式逆变器功率 Common series inverter power	5、10、15、20、25、30、40、50、60、80、100、110、125、175KW
逆变器输入路数 Inverter input channels	1路 ~N路 (按需定制) 1 to N channels (customized on demand)
交流总输出路数 Total AC output channels	1路 Route 1
汇流要求 Confluence requirement	单相、三相汇流 Single-phase, three-phase confluence
系统电压 (可选) System voltage (optional)	AC:220V, AC:380V, AC:540V, AC:800V
支路开关配置 (可选) Branch switch tolerance (optional)	32A、63A、80A、100A、125A、160A、200A、250A、400A、630A、800A
开关品牌 (可选) Switch brand (optional)	尼古拉斯、德力西、正泰、常熟、ABB、施耐德 Nicholas, Delisi, Chint, Changshu, ABB, Schneider
保护功能 Protection function	
短路保护 Short circuit protection	有 have
过载保护 Overload protection	有 have
防雷保护 Lightning protection	有 (标称电流: In: 20KA, Imax:40KA, Up ≤ 4kV)
防雷失效保护 Lightning failure protection	有 have
环境适用 Environmental applicability	
温、湿度 Temperature and humidity	工作温度: -25 至 +60°C 存储温度: -40 至 +70°C 湿度: 0-90% 无凝露 无腐蚀性气体场所 (若有, 请特殊说明) Operating temperature: -25 to +60°C Storage temperature: -40 to +70°C Humidity: 0-90% no condensation no corrosive oil gas place (if there is, please specify)
使用海拔 Service altitude	≤ 3000M
耐盐雾 Salt spray resistance	标配盐雾试验 336 小时 Standard salt spray test 336 hours
安全规范 Safety specification	
铜排选择 Copper row selection	紫铜排 (镀锡工业)Copper bar
安全防护 Safety protection	PVC 防护板 PVC protective plate
电气间隙 Electrical clearance	≥ 14mm
爬电距离 Creepage distance	≥ 25mm
绝缘电阻 Insulation resistance	>20MΩ
绝缘电压 Insulation voltage	AC3000V, 1MIN
常规参数 Conventional parameter	
箱体材质 Box material	不锈钢、冷轧板喷塑、不锈钢喷塑 Stainless steel, cold rolled plate spray, stainless steel spray
防护等级 Class of protection	室外 IP65 Outdoor IP65
箱体类型 Box type	单门配电箱 Single door distribution box
安装方式 Installation mode	壁挂式 / 落地式 (可定制) Wall mounted/floor mounted (customizable)
箱体尺寸 (长 * 宽 * 高)Box size (L * W * H)	按需定制 On-demand customization

AC 8/1 交流汇流箱线路图及布局图 Ac bus box circuit diagram and layout diagram



YBW-6/10/35kV

光伏欧式箱变

Photovoltaic European box change

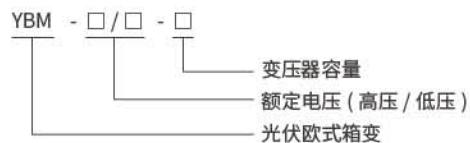


YBM- □ /500/630/800/1000/1250/1600/2500 光伏欧式箱变广泛用于 光伏发电系统 城市电网改造、住宅小区、高层建筑、工矿、宾馆、商场、机场、铁路、油田、码头、高速公路以及临时性用电设施等户内外场所。

YBM - 800/1000 - / 500/630/2500/1250/1600 / photovoltaic European box change is widely used in photovoltaic power generation system of city network reconstruction, residential area, high-rise buildings, industrial and mining, hotel, shopping mall, airport, wharf, highway, railway, oilfield and temporary electricity facilities and other places of households inside and outside.

- 3C 认证
3C certification
- 漏电保护
Leakage protection
- 过载保护
Overload protection
- 耐冷热
Resistance to heat and cold

型号含义 Model Meanings



Transformer capacity
Rated voltage (high/low voltage)
Photovoltaic European box change

正常使用条件 Normal service condition

- 海拔高度: 不超过 1000m;
- 环境温度: -25°C ~+40°C;
- 相对湿度: 日平均值不大于 95%, 月平均值不大于 90%;
- 安装场所: 无火灾、爆炸危险、导电尘埃、化学腐蚀性气体及剧烈震动的场所。

- Altitude: no more than 1000m;
- Ambient temperature: -25°C ~+40°C;
- Relative humidity: the daily average is not more than 95%, the monthly average is not more than 90%;
- Installation site: free from fire, explosion danger, conductive dust, chemical corrosive gas and violent vibration.

功能特点 Functional characteristics

- 高压开关设备、变压器、低压开关设备三位一体, 成套性强;
- 高、低压保护完善, 运行安全可靠, 维护简单;
- 占地少, 投资省、生产周期短、移动方便;
- 接线方案灵活多样;
- 结构独特: 独特蜂窝式结构双层 (复合板) 外壳牢固, 隔热又散热通风、美观、防护等级高, 外壳材料有不锈钢、彩钢板可选;

- High voltage switchgear, transformer, low voltage switchgear trinity, complete sets of strong;
- Perfect high and low pressure protection, safe and reliable operation, simple maintenance;
- Small footprint, less investment, short production cycle, easy to move;
- Flexible wiring scheme;
- Unique structure: Unique honeycomb structure double layer (composite board) shell is firm, heat insulation and heat dissipation ventilation, beautiful, high protection level, shell materials are stainless steel, color steel plate optional;

负荷开关技术参数 Load switch technical parameters

项目 Item	单位 unit	FKN12- □ 负荷开关 FKN12- □ Load switch	FZN25- □ 真空负荷开关 FZN25- □ Vacuum load switch
额定电压 Rated voltage	kV	6/10/20/35	
最高工作电压 Maximum operating voltage	kV	6/10/20/35	
额定频率 Rated frequency	Hz	50	
额定电流 Rated current	A	630	
额定开断负荷电流 Rated breaking load current	A	630	
热稳定电流 (有效值) Heat stable current	kA/S	20/2	20/4
动稳定电流 Dynamic stable current	kA	50	50
短路关合电流 (峰值) Short-circuit closing current (peak)	kA	50	50
满负荷开断次数 Full load breaking times	次	2000	10000
机械寿命 Mechanical life	次	2000	10000
1min 工频耐压 (相间及对地) 1min power frequency withstand voltage (phase to phase and ground)	kV	42/65/95	42/65/95
雷电冲击电压 (相对及对地) Lightning impulse voltage (relative and to ground)	kV	75	75

10kV~35kV

预制舱

Precast hold



提供变电站全模块化装配式解决方案，使占地面积减少 30%，系统设计、安装和调试周期缩短 70%；采用全金属预制舱，配置智能环境控制系统，可适用于高温、高湿、沙尘等复杂的气候和地理环境；支持 eCloud 能源云平台接入，提供远程健康诊断，故障分析、维护指导等功能，实现变电站的无人值守和设备的全生命周期管理；变电站所有设备选用本公司可根据实际需求定制，运行可靠，品质保证。

Provide fully modular assembly solutions for substations, reducing floor space by 30% and system design, installation and commissioning cycle by 70%; The all-metal prefabricated chamber is equipped with intelligent environmental control system, which can be applied to complex climatic and geological environment such as high temperature, high humidity, sand and dust.

Support eCloud energy cloud platform access, provide remote health diagnosis, fault analysis, maintenance guidance and other functions to achieve unattended substation and equipment life cycle management; The selection of all equipment in the substation can be customized according to actual needs, reliable operation and quality assurance.

3C 认证
3C certification

漏电保护
Leakage protection

过载保护
Overload protection

耐冷热
Resistance to heat and cold

制作工艺要求及特点 Production process requirements and characteristics

舱体一般不设窗户，采用风机及空调实现通风。应设置空调、电暖器、风机等采暖通风设施，空调，主控室及值班室宜设置窗户便于采光通风。

舱体屋面，可采用空调排水管方式；舱地面防陶瓷防静电活动底板，活动底板的钢支架固定于舱底。防静电活动底板高度宜为 200~250mm，有利于电缆敷设与检修。

预制舱仓内部须：设置完好的安全防护、视频监控措施，同时应设置配电盒、开关面板、插座等。

The cabin body generally does not have Windows, using fans and air conditioning to achieve ventilation. Air conditioning, heater, fan and other heating and ventilation facilities should be set up, air conditioning, main control room and duty room should be set up Windows to facilitate lighting and ventilation.

The roof of the cabin body can adopt the air conditioning drainage pipe; The floor of the cabin is anti-ceramic and anti-static movable bottom plate, and the steel support of the movable bottom plate is fixed in the bottom of the cabin. The height of the ESD movable bottom plate should be 200 to 250mm, which is conducive to cable laying and maintenance.

The interior of the prefabricated cabin shall be equipped with sound security protection and video surveillance measures, and power distribution box, switch panel, socket, etc.

应用领域 Application field

风力发电、光伏发电、海上风电、分布式光伏发电等新能源领域

升压站

电网 10-35kV 变电站

大型厂矿企业自用变电站

Wind power generation, photovoltaic power generation, offshore wind power, distributed photovoltaic power generation and other new energy field booster station Power grid 10-35kV substation

Large factories and mining enterprises for their own substation

预制舱与传统变电站比较 Comparison between prefabricated cabin and traditional substation

项目 Item	常规户外变电站 Conventional outdoor substation	预制舱式变电站 Prefabricated cabin substation
占地面积 Floor space	About 3000 square meters	约 2000 平方米 Approx. 2000 square meters
施工周期 Construction period	约 3~4 个月 About 3 to 4 months	全站为整体预装，所有设备工厂预制，现场安装即可，施工周期短，1~2 个月 The whole station is pre-assembled as a whole, all equipment is prefabricated by the factory, and can be installed on site. The construction period is short, 1 to 2 months
线缆用量 Cable usage	设备分散布置，一、二次线缆用量大 The device is distributed, and the amount of primary and secondary cables is large	设备高度集成布置，电气距离缩短，能节约 30% 左右线缆 The equipment is highly integrated, the electrical distance is shortened, and the cable can be saved by about 30%
环境要求 Environmental requirement	环境要求高，风沙、凝露等环境恶劣地区对设备危害很大 High environmental requirements, wind sand, condensation and other harsh environment areas are very harmful to equipment	采用全金属舱体设计，IP54 防护等级，配有完善的暖通系统，可防风沙、凝露，提升设备可靠性 All metal cabin design, IP54 protection level, equipped with perfect HVAC system, can prevent sand, condensation, improve equipment reliability
施工及管理成本 Construction and management costs	建筑物多，施工成本高；设备由不同厂家提供，协调管理成本高 Many buildings, high construction costs; The equipment is provided by different manufacturers, and the coordination and management cost is high	装配式设计，全站取消建筑物，施工费用低；全部设备由本公司提供，并负责全部安装调试工作，管理成本低 Prefabricated design, the whole station cancels the building, the construction cost is low; All equipment is provided by our company. And responsible for all installation and commissioning work, low management costs
运维费用 Operation and maintenance cost	敞开式设计，受环境等影响大，运行、维护成本高 Open design, affected by the environment, high operation and maintenance costs	封闭式设计，基本不受环境等外部条件影响，运维成本低 Closed design, basically not affected by external conditions such as the environment, low operation and maintenance costs

EVACS

7KW 壁挂式 / 立柱式交流充电桩

Wall-mounted / pole-mounted AC charging station



EVACS-7 系列交流充电桩，外观简洁大方，框架设计稳定，保护功能齐全；具备过流保护、过欠压保护、急停保护、PWM 异常保护、连接异常保护等保护机制，适用于住宅小区、工业园区、高速服务区、停车场等各类型充电场所；是一款为具有车载交流充电机的新能源车辆提供电能供给的高效交流充电桩设备。

EVACS-7 series AC charging station has simple and generous appearance, stable design frame and complete protection functions. It is equipped with over-current protection, over-under-voltage protection, emergency stop protection, PWM abnormality protection, connection abnormality protection and other protection mechanisms. It is suitable for various types of charging places such as residential areas, industrial parks, high-speed service areas, car parks and so on. It is a high-efficiency AC charging equipment that provides power supply for new energy vehicles with on-board AC chargers.



主要技术参数 Main technical parameters

产品型号 Product model	EVACS-7
枪口数 Muzzle number	单枪 Single gun
输入电压 Input voltage	单相 220Vac±20% Single-phase 220Vac±20%
额定电流 Rated current	16A/32A
额定频率 Rated frequency	50±5Hz
额定功率 Rated power	3.5KW/7KW
显示屏 Display screen	4.3 寸高亮触摸屏 4.3 "high light touch screen
充电方式 Charging mode	密码启动、即插即充、刷卡启动、扫码启动 Password start, plug and charge, swipe card start, scan code start
充电模式 Charging mode	自动充满、时间模式、电量模式、金额模式、预约模式 Automatic charging, time mode, power mode, amount mode, reservation mode
过流保护额定动作值 Rated operating value of overcurrent protection	≥ 35.2A(不可恢复)(non-recoverable)
过压保护额定动作值 Rated operating value of overvoltage protection	≥ 264Vac
欠压保护额定动作值 Undervoltage protection rated operating value	≤ 176Vac
短路保护 Short circuit protection	不可恢复，需人工干预 It is not recoverable and requires manual intervention
漏电保护额定动作值 Rated operating value of leakage protection	30mA
漏电保护额定动作时间 Leakage protection rated operating time	≤ 0.1s
允许相对湿度 Allowable relative humidity	0 ~ 95% (无冷凝) (no condensation)
工作温度 Allowable temperature	-20°C ~ +50°C
储存温度 Storage temperature	-30°C ~ +70°C
通讯接口 Communication interface	RS-485、以太网 Ethernet、GPRS、4G
防护等级 Protection level	IP54
充电接口标准 Charging interface standard	国家标准 GB/T20234~2015 要求 National standard GB/T20234~2015 requirements
平均无故障时间 Mean time without failure	MTBF ≥ 8796h

AC

7kW 充电桩 (立柱式)

Charging pile (column type)



运营版
Operation version

运营版充电桩，运营电动车充电的理想选择；外壳采用金属或工程合金塑料、高强度、高机械模数；支持刷卡扫码，使用方便，应用广泛；建站运营，室内外停车场，商场的最佳选择；充电桩时尚且符合人体工程学设计；防水等级 IP54，适合室内外设计，可定制 LOGO。

Operating version charging pile, the ideal choice for electric vehicle charging; Shell made of metal or engineering alloy plastic, high strength, high mechanical modulus; Support card scanning code, easy to use, widely used; Station operation, indoor and outdoor parking, the best choice for shopping malls; The charging gun is modern and ergonomic; Waterproof rating IP54, suitable for indoor and outdoor design, customizable LOGO.



产品特点 Product characteristics

- ◆ 7kW 额定功率
- ◆ 220V 输入电压
- ◆ 32A 输出电流
- ◆ 7kW rated power
- ◆ 220V input voltage
- ◆ 32A output current

产品优势 Product advantage

安装便捷：时尚小巧 安装灵活 室内室外家用首选
人机交互：4.3 寸液晶触摸屏 充电信息实时显示
多重保护：欠压 过压 过流 漏电 短路 烟雾

Easy installation: Stylish compact installation flexible indoor and outdoor home preferred
Human-computer interaction: 4.3-inch LCD touch screen charging information real-time display
Multiple protection: undervoltage overvoltage overcurrent leakage short circuit surge

技术参数 Technical parameter

详细规格 Detailed specification	产品型号 Product model	AC-7000
外观结构 Appearance structure	产品属性 Product attribute	运营版 Operation version7KW
	设备尺寸 Equipment size	390mm*240mm*95mm(L*W*T)
	安装方式 Installation mode	地面开孔安装 Installation with ground holes
	走线方式 Routing mode	下进下出 In and out
	线缆长度 Cable length	5M
电气指标 Electrical index	输入电压 Input voltage	220V±20%
	输入频率 Input frequency	50±5HZ
	额定功率 Rated power	7KW
	输出电流 Output current	32A
功能设计 Functional design	人机界面 Man-machine interface	刷卡、扫码、急停按钮、LED 指示灯 Swipe card, scan code, emergency stop button, LED indicator
	通讯接口 Communication interface	支持 4G/2G、以太网 Support 4G/2G, Ethernet
安全设计 Safety design	安规标准 Safety standard	GB/T18487.2-2017
	保护设计 Protection design	浪涌、过流、过压、漏电、欠压、短路保护 Surge, over current, over voltage, leakage, under voltage, short circuit protection
环境指标 Environmental index	使用环境 Use environment	户内 / 户外 Indoor/outdoor
	工作温度 Operating temperature	-20°C ~50°C
	防护等级 Class of protection	IP54

EVACS

80kw/40kw/14kw 立式双枪交流充电桩

Vertical double gun AC charging station



EVACS 系列立式双枪交流充电桩采用落地式设计，外观简洁大方，框架设计稳定，保护功能齐全；具备过流保护、过欠压保护、急停保护、PWM 异常保护、连接异常保护等保护机制，适用于住宅小区、工业园区、高速服务区、停车场等各类型充电场所；是一款为具有车载交流充电桩的新能源车辆提供电能供给的高效交流充电桩设备。

EVDCS series integrated DC charging station adopts a floor-standing design. It has simple and generous appearance, stable frame design and complete protection functions. It has mechanisms such as emergency stop protection, over-voltage protection, over-current protection, insulation failure protection, reverse battery protection and so on. The single and double guns switch the power automatically, which is suitable for all kinds of charging places such as logistics park charging stations, high-speed service areas, public car parks and so on. The power of the whole equipment is flexibly configured according to the module, and the output power is automatically adjusted according to the vehicle load. It is a high-efficiency DC charger that provides power for new energy vehicles with on-board chargers or DC charging ports in accordance with national standards.

- 3C 认证 3C certification
- 漏电保护 Leakage protection
- 过载保护 Overload protection
- 耐冷热 Resistance to heat and cold

主要技术参数 Main technical parameters

产品型号 Product model	EVACS-80	EVACS-40	EVACS-14
枪口数 Muzzle number	双枪 Double gun		
输入电压 Input voltage	三相 Three phase 380Vac±20%	三相 Three phase 380Vac±20%	单相 monophase 220Vac±20%
额定电流 Rated current	63A*2	32A*2	32A*2
额定频率 Rated frequency	50±5Hz	50±5Hz	50±5Hz
额定功率 Rated power	84kW	42kW	14kW
显示屏 Display screen	7.0 寸高亮触摸屏 7.0 inch high light touch screen		
充电方式 Charging mode	密码启动、即插即充、刷卡启动、扫码启动 Password start, plug and charge, swipe card start, scan code start		
充电模式 Charging mode	自动充满、时间模式、电量模式、金额模式、预约模式 Automatic charging, time mode, power mode, amount mode, reservation mode		
过流保护额定动作值 Rated operating value of overcurrent protection	≥ 78A(不可恢复) (non-recoverable)	≥ 35.2A(不可恢复) (non-recoverable)	≥ 35.2A(不可恢复) (non-recoverable)
过压保护额定动作值 Rated operating value of overvoltage protection	≥ 480Vac	≥ 480Vac	≥ 264Vac
欠压保护额定动作值 Undervoltage protection rated operating value	≤ 300Vac	≤ 300Vac	≤ 176Vac
漏电保护额定动作值 Rated operating value of leakage protection	30mA		
漏电保护额定动作时间 Leakage protection rated operating time	≤ 0.1s		
短路保护 Short circuit protection	不可恢复，需人工干预 It is not recoverable and requires manual intervention		
防护等级 Protection level	IP54		
工作温度 Operating temperature	-20°C~ +50°C		
存储温度 Storage temperature	-30°C~ +70°C		
允许相对湿度 Allowable relative humidity	0 ~ 95% (无冷凝) (no condensation)		
允许最高海拔 Maximum permissible altitude	2000m		
平均故障间隔时间 Mean time between failures	MTBF ≥ 8796h		

EVDCS

80kW/120kW/160kW 一体式直流桩

Integrated DC pile



EVDCS 系列一体式直流充电桩采用落地式设计，外观简洁大方，框架设计稳定，保护功能齐全，具有急停保护、过欠压保护、过流保护、绝缘故障保护、电池反接保护等机制；单双枪自动切换功率，适用于物流园充电站、高速服务区、公共停车场等各类型充电场所；设备整机功率根据模组灵活配置，输出功率随车辆负载自动调节，是一款为具有车载充电机或具有符合国标的直流充电口的新能源车辆提供电能供给的高效直流充电设备。

EVDCS series integrated DC charging pile adopts floor-to-ceiling design, simple and elegant appearance, stable frame design, complete protection functions, with scram protection, over and under voltage protection, over current protection, insulation fault protection, battery reverse connection protection and other mechanisms; Single-double gun automatic switching power, suitable for charging stations in logistics parks, high-speed service areas, public parking lots and other types of charging places; The power of the whole equipment is flexibly configured according to the module, and the output power is automatically adjusted with the vehicle load. It is an efficient DC charging equipment that provides electric energy supply for new energy vehicles with on-board chargers or DC charging ports conforming to national standards.

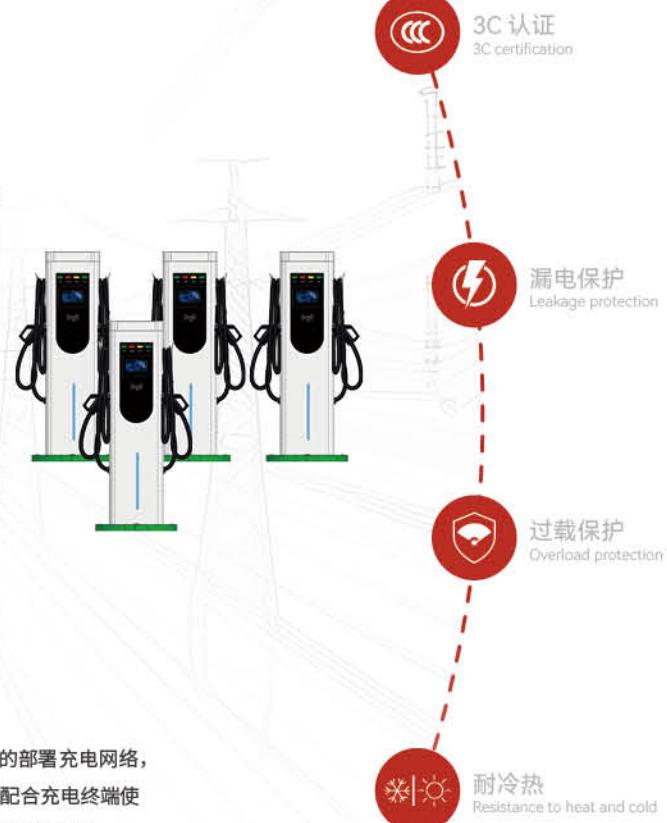
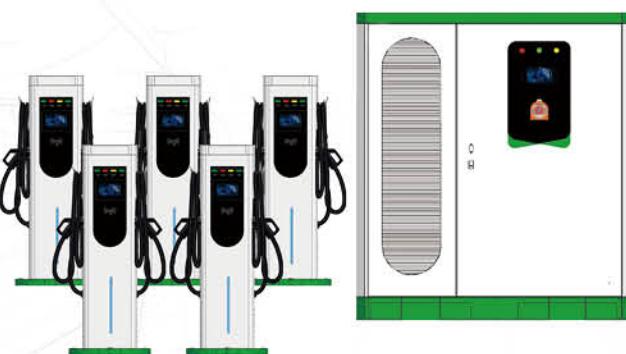
主要技术参数 Main technical parameters

产品型号 Product model	EVDCS-80	EVDCS-120	EVDCS-160
枪口数 Muzzle number	单枪 / 双枪 (可选配柔性分配) Single/dual gun (optional flexible distribution)		
交流输入电压 Ac input voltage	380Vac±15%	380Vac±15%	380Vac±15%
交流输入电流 Ac input current	≤ 121A	≤ 182A	≤ 242A
交流电源频率 Ac power frequency	50±5Hz	50±5Hz	50±5Hz
输入功率因数 Input power factor	>0.99	>0.99	>0.99
最大输出功率 Maximum output power	≤ 80kW	≤ 120kW	≤ 160kW
直流输出电压 Dc output voltage	200 ~ 750V	200 ~ 750V	200~750V
直流输出电流 Dc output current	最大 Max200A	最大 Max300A	最大 Max 400A
满载转换效率 Full-load conversion efficiency	≥ 95.5%		
充电模式 Charging mode	自动充满、时间模式、电量模式、金额模式、预约模式 Automatic charging, time mode, power mode, amount mode, reservation mode		
显示屏 Display screen	7.0 寸高亮触控屏 7.0 "high light touch screen		
充电方式 Charging mode	密码启动、刷卡启动、扫码启动、VIN 码启动 Password start, swipe card start, scan code start, VIN code start		
允许工作温度 Allowable operating temperature	-20°C ~ + 50°C		
允许相对湿度 Allowable relative humidity	0 ~ 95% (无冷凝) (No condensation)		
冷却方式 Cooling mode	强制风冷 Forced air cooling		
噪音等级 Noise level	≤ 65dB		
辅助电源 Auxiliary power supply	12V/24V 可切换 Switchable		
防护等级 Protection level	IP54		
平均无故障时间 Mean time without failure	MTBF ≥ 8796h		

CDZ-240/360/480/600/960kw

分体式直流充电桩 (含液冷终端)

Split DC charging pile (with liquid cooling terminal)



用于电动汽车分布式充电网络的电动汽车充电电源，可快速，有效的部署充电网络，为电动汽车提供大功率充电服务。分体箱式（户外）直流充电桩需配合充电终端使用。适用于高速公路、城市公共停车场、公交车站、企业专用停车场等场所。

The electric vehicle charging power supply used in the distributed charging network of electric vehicles can quickly and effectively deploy the charging network to provide high-power charging services for electric vehicles. Separate box type (outdoor) DC charger needs to be used with the charging terminal. Applicable to highways, urban public stops, bus stops, enterprise parking lots and other places.

产品特点 Product characteristics

- ◆ 7.0 高亮触控屏
- ◆ IP54 防护等级
- ◆ 380Vac 交流输入电压
- ◆ 7.0 high light touch screen
- ◆ IP54 protection grade
- ◆ 380Vac AC input voltage

240kw 技术参数 Technical parameter

详细规格 Detailed specification	产品型号 Product model	CDZ-240
外观结构 Appearance structure	产品属性 Product attribute	直流桩 240kW Dc pile 240kW
	设备尺寸 Equipment size	2400mm*2690mm*1050mm(L*W*T)
	输入电压 Input voltage	380V±15% 三相 Three phase
	输入频率 Input frequency	50Hz±5Hz
	输出电压 Output voltage	DC200 ~ 1000V
	输出电流 Output current	110-440A
	额定功率 Rated power	240 kW
	稳压精度 Voltage regulation accuracy	≤ ±5%
	稳流精度 Steady flow accuracy	≤ ±1%
	波纹系数 Ripple coefficient	≤ ±0.5%
	谐波电力 Harmonic power	≤ 5%
	充电效率 Charging efficiency	≥ 93%
	通讯接口 Communication interface	支持 support 4G/2G, 以太网 Ethernet 4G/2G
	冷却方式 Cooling mode	风冷 Air cooling
	工作温度 Operating temperature	-20°C ~ 50°C
	防护等级 Class of protection	IP54

360kw 技术参数 Technical parameter

详细规格 Detailed specification	产品型号 Product model	CDZ-360
外观结构 Appearance structure	产品属性 Product attribute	直流桩 Dc pile 360kW
	设备尺寸 Equipment size	2400mm*2690mm*1050mm(L*W*T)
	输入电压 Input voltage	380V±15% 三相 Three phase
	输入频率 Input frequency	50Hz±5Hz
	输出电压 Output voltage	DC200 ~ 1000V
	输出电流 Output current	110-440A
	额定功率 Rated power	360 kW
	稳压精度 Voltage regulation accuracy	≤ ±5%
	稳流精度 Steady flow accuracy	≤ ±1%
	波纹系数 Ripple coefficient	≤ ±0.5%
	谐波电力 Harmonic power	≤ 5%
	充电效率 Charging efficiency	≥ 93%
	通讯接口 Communication interface	支持 Support 4G/2G, 以太网 Ethernet 4G/2G
	冷却方式 Cooling mode	风冷 Air cooling
	工作温度 Operating temperature	-20°C ~ 50°C
	防护等级 Class of protection	IP54



480kw 技术参数 Technical parameter

详细规格 Detailed specification		产品型号 Product model	CDZ-480
外观结构 Appearance structure		产品属性 Product attribute	直流桩 Dc pile 480kW
设备尺寸 Equipment size		2400mm*2690mm*1050mm(L*W*T)	
电气指标 Electrical index	输入电压 Input voltage	380V±15% 三相 Three phase	
	输入频率 Input frequency	50Hz±5Hz	
	输出电压 Output voltage	DC200 ~ 1000V	
	输出电流 Output current	110-440A	
	额定功率 Rated power	480 kW	
	稳压精度 Voltage regulation accuracy	≤ ±5%	
	稳流精度 Steady flow accuracy	≤ ±1%	
	波纹系数 Ripple coefficient	≤ ±0.5%	
	谐波电力 Harmonic power	≤ 5%	
	充电效率 Charging efficiency	≥ 93%	
功能设计 Functional design	通讯接口 Communication interface	支持 support4G/2G、以太网 Ethernet4G/2G	
	冷却方式 Cooling mode	风冷 Air cooling	
环境指标 Environmental index	工作温度 Operating temperature	-20°C ~50°C	
	防护等级 Class of protection	IP54	

600kw 技术参数 Technical parameter

详细规格 Detailed specification		产品型号 Product model	CDZ-600
外观结构 Appearance structure		产品属性 Product attribute	直流桩 Dc pile 600kW
设备尺寸 Equipment size		2400mm*2690mm*1050mm(L*W*T)	
电气指标 Electrical index	输入电压 Input voltage	380V±15% 三相 Three phase	
	输入频率 Input frequency	50Hz±5Hz	
	输出电压 Output voltage	DC200 ~ 1000V	
	输出电流 Output current	110-440A	
	额定功率 Rated power	600 kW	
	稳压精度 Voltage regulation accuracy	≤ ±5%	
	稳流精度 Steady flow accuracy	≤ ±1%	
	波纹系数 Ripple coefficient	≤ ±0.5%	
	谐波电力 Harmonic power	≤ 5%	
	充电效率 Charging efficiency	≥ 93%	
功能设计 Functional design	通讯接口 Communication interface	支持 support4G/2G、以太网 Ethernet4G/2G	
	冷却方式 Cooling mode	液冷 / 风冷 Liquid/air cooled	
环境指标 Environmental index	工作温度 Operating temperature	-20°C ~50°C	
	防护等级 Class of protection	IP54	

960kw 技术参数 Technical parameter

详细规格 Detailed specification		产品型号 Product model	CDZ-960
电气指标 Electrical index	产品属性 Product attribute	直流桩 Dc pile 960kW	
	设备尺寸 Equipment size	2400mm*2690mm*1050mm(L*W*T)	
	输入电压 Input voltage	380V±15% 三相 Three phase	
	输入频率 Input frequency	50Hz±5Hz	
	输出电压 Output voltage	DC200 ~ 1000V	
	输出电流 Output current	110-440A	
	额定功率 Rated power	960 kW	
	稳压精度 Voltage regulation accuracy	≤ ±5%	
	稳流精度 Steady flow accuracy	≤ ±1%	
	波纹系数 Ripple coefficient	≤ ±0.5%	
功能设计 Functional design	谐波电力 Harmonic power	≤ 5%	
	充电效率 Charging efficiency	≥ 93%	
环境指标 Environmental index	通讯接口 Communication interface	支持 support4G/2G、以太网 Ethernet4G/2G	
	冷却方式 Cooling mode	液冷 / 风冷 Liquid/air cooled	
	工作温度 Operating temperature	-20°C ~50°C	
	防护等级 Class of protection	IP54	

1MW/1GWh

光储充一体化系统

Integrated optical storage and charging system



随着全球能源危机的日益严峻，我国作为能源消耗大国，以清洁、绿色的方式满足电力需求，推动多能互补，实现综合能源高效利用和可靠供电，是我国能源转型的必然要求，光储充一体化成为拯救能源危机的“及时雨”。嘉充电能电气开发的智能光储充系统由光伏发电、储能、电动汽车充电、能量管理等单元组成。系统可实现发电、充/放电、储能“三位一体”，光伏发电单元满足负荷用电及充电需求，多余电量并入公共电网，可实现光伏发电、充电运营双重收益；储能单元利用峰谷电价差异，吸收低价“谷电、平电”，在用电高峰时释放电能，赚取峰谷、峰平电价差，并可通过削峰管控来减小企业用电峰值，从而降低企业基本电费。

With the increasingly severe global energy crisis, China, as a major energy consumer, meets power demand in a clean and green way, promotes multi-energy complementary, and achieves comprehensive energy efficient use and reliable power supply, which is the inevitable requirement of China's energy transformation, and the integration of light storage and charging has become the "timely rain" to save the energy crisis. The intelligent optical storage and charge system developed by Jia Dianeng Electric is composed of photovoltaic power generation, energy storage, electric vehicle charging, energy management and other Units. The system can achieve power generation, charge/discharge, energy storage "trinity", photovoltaic power generation Unit to meet the load electricity and charging needs, excess electricity into the public grid, can achieve double benefits of photovoltaic power generation and charging operation; The energy storage Unit uses the difference in peak-valley electricity prices to absorb low-price "valley electricity, flat electricity", release electricity at peak times, earn the difference in peak-valley and peak-flat electricity prices, and can reduce the peak electricity consumption of enterprises through peak cutting control, thereby reducing the basic electricity costs of enterprises.

3C 认证
3C certification

漏电保护
Leakage protection

过载保护
Overload protection

耐冷热
Resistance to heat and cold

应用场景 Application scenario

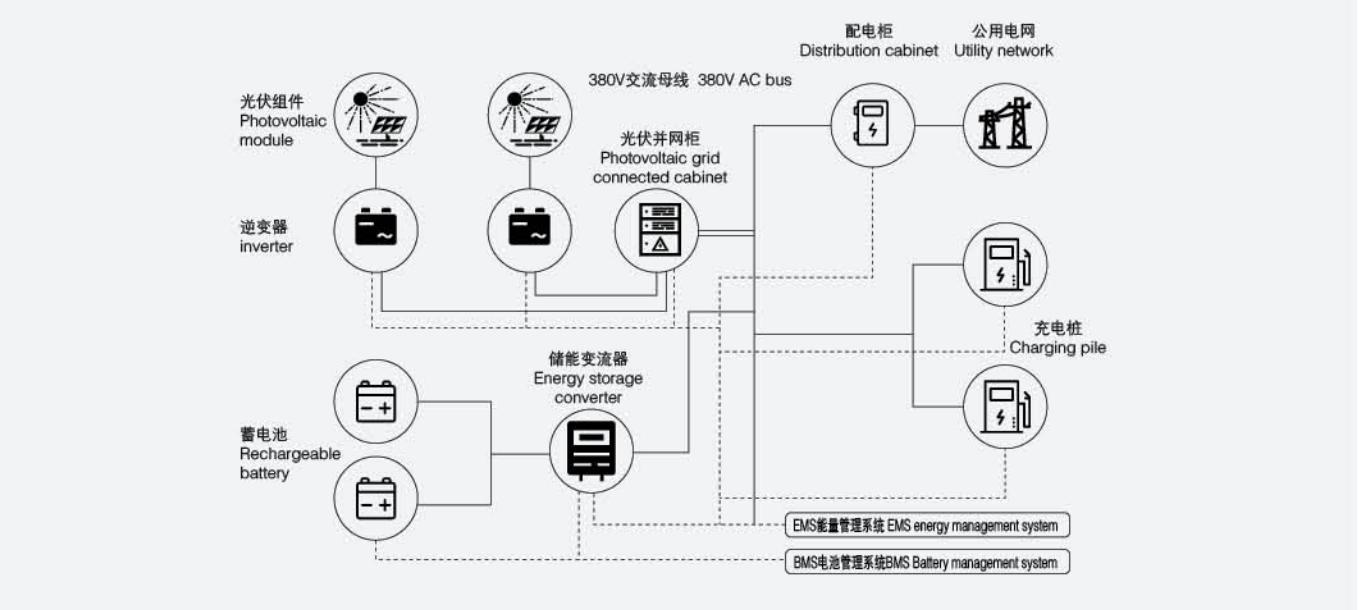
- 电力供应不足或电网不稳定的工矿企业、商务中心等。
- 需要不间断供电的政府机关、科研园区和机要部门。
- 交通密集的车站、码头和机场、户外临时大型负荷中心。
- 需要夜间储能以供白天使用的核能、风能等发电设施。
- 需要具备“黑启动”功能的发电站。
- 发电质量有波动的太阳能、风能等多能互补能源。
- 因环保问题而限制小型火力调峰发电站或其它高污染发电站发展的区域。
- 远离大陆的海岛和偏远山区。

- Industrial and mining enterprises and business centers with insufficient power supply or unstable power grid.
- Government agencies, scientific research parks and confidential departments requiring uninterrupted power supply.
- Traffic intensive stations, docks and airports, outdoor temporary large load centers.
- Nuclear, wind and other power generation facilities that require nighttime energy storage for daytime use.
- Power station with "black start" function is required.
- Multi-energy complementary energy such as solar energy and wind energy with fluctuating power generation quality.
- Areas that limit the development of small thermal peaking power plants or other highly polluting power plants due to environmental issues.
- Islands and remote mountains far from the mainland.

系统组成 System composition

- 光伏发电：发电量可全额上网，也可自发自用，余电上网
- 储能系统：集成储能变流器、电池组、配电及通讯等设备EMS、BMS，实现系统增容、移峰填谷、平滑输出等功能
- 充电站：可根据不同需求为各种类型电动汽车充电，并免费提供共享运营管理云平台增值服务

- Photovoltaic power generation: the power generation can be fully connected to the Internet, or can be self-generated, and the surplus electricity can be connected to the Internet
- Energy storage system: Integrated storage converter, battery pack, power distribution and communication equipment EMS, BMS, to achieve system capacity, peak shifting and valley filling, smooth output and other functions
- Charging station: It can charge various types of electric vehicles according to different needs, and provide value-added services of shared operation management cloud platform free of charge



适用新能源车商 Applicable to new energy vehicle manufacturers

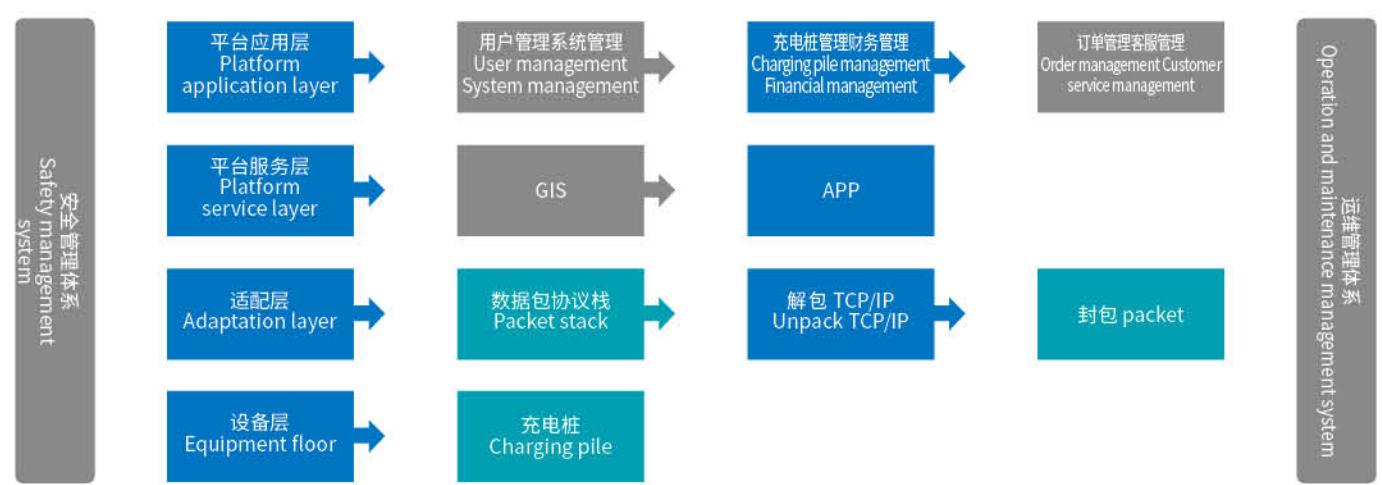


充电设施互联网管理后台 Charging facilities Internet management background

极致的运营环境，目前提供公共充电服务的充电设施，都是单桩、单一卡的个体。缺乏关联性质，对能提供新能源服务的场所，不能及时知会需要服务的新能源车车主。充电设施互联网管理后台对充电供给和充电需求进行了有效的连接，使得充电桩和新能源车车主的互动性大大提高，嘉充电能充电桩正是基于“嘉充电能随行，充电无忧”的中心理念、追求极致的用户体验，历史性地开创了“以互联网+的思维建设充电网络”的中心思想，打造智慧城市中的智慧网络。

The ultimate operating environment, the current charging facilities providing public charging services, are a single pile, a single card individual. The lack of correlation nature, places that can provide new energy services, can not inform the owners of new energy vehicles that need services in a timely manner. Charging facilities Internet management background of charging supply and charging demand for effective connection, so that charging pile and new energy vehicle owners greatly improve the interaction, charging pile is based on the central concept of "Jia charging can be accompanied, charging worry", the pursuit of the ultimate user experience, historically created the "Internet + thinking to build charging network" the central idea. Building smart networks in smart cities.

业务管理平台 Service management platform

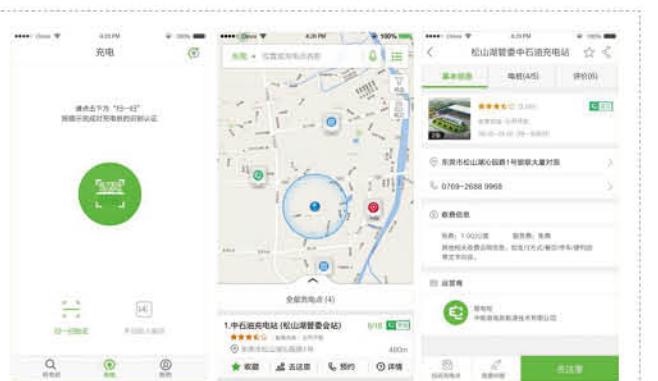


云平台服务 Cloud platform service

寻找充电桩 Find charging points

通过充电桩的手机 App，可以迅速查找到附近的所有充电桩，查看充电桩群的详细情况，并且可以一键导航附近充电桩，支持收藏用户常用的充电桩，让查找更方便，让充电更简单。

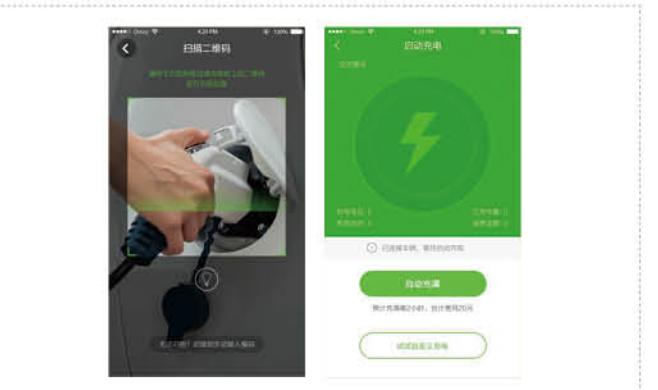
Through the mobile App of the charging pile, you can quickly find all the nearby charging piles and view the details of the charging pile group, and you can navigate nearby charging piles with one click, supporting the collection of users' commonly used charging piles, making the search more convenient and charging easier.



远程充电 Remote charging

导航到充电桩所在位置，充电桩连接充电车辆。扫下“充电二维码”或者“充电桩编号”后，离开充电车辆所在位置，可以实现通过 WiFi 无线网络、GPRS 网络等多种网络环境，通过嘉充电能充电桩充电手机 APP 中的手机扫码充电和手动输入充电桩编号，即可实现远程充电功能。

Navigate to the location of the charging pile and connect the charging gun to the charging vehicle. After scanning the "charging QR code" or "charging pile number", leaving the location of the charging vehicle, you can achieve a variety of network environments such as WiFi wireless network, GPRS network, and charge the mobile phone APP in the charging pile by scanning the code and manually entering the charging pile number to achieve remote charging function.



无障碍充电 Barrier free charging

充电桩充电平台下的充电桩都可以用手机 APP 扫描充电桩上的二维码进行充电，充电结束后自动结算，支持支付宝、银联和微信等多种充值方式，更加方便快捷。结束了充电桩一直以来只能使用 IC 卡的支付困境，真正实现无障碍充电。

Charging piles under the charging platform can be charged by scanning the two-dimensional code on the charging pile with mobile phone APP, and automatic settlement after charging, supporting Alipay, UnionPay and wechat and other recharge methods, which is more convenient and fast. It ends the payment dilemma that the charging pile can only use IC cards, and truly realizes barrier-free charging.



实时查看充电情况 Check charging status in real time

通过 App 中的充电情况，实时查看充电状态，显示消费金额和充电时长。车主离开随时可以查看充电实时状态。高效实现我们“嘉充电能随行，充电无忧”的核心理念。

Through the charging situation in the App, real-time view the charging status, display the consumption amount and charging time. The owner can check the real-time charging status at any time when he leaves. Efficiently realize our core concept of "Jia charging can accompany, charging worry-free".

