

PRODUCT CATALOG

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电气行业犀行者
耐用电气设备专业制造商

The rhinoceros walkers in electrical industrial
Professional manufacturer of durable electrical equipment

高效节能变压器产品手册

Transformer Product Manual



China Electric Valley · Weifan Electric Supply Chain

Tel: +86312-7517886

WhatsApp/Tel: +86138322752

Address: China Electric Valley · Baoding Hebei

Website: www.electricvalley.net

Email: sales@electricvalley.net

威帆电气科技有限公司

Baoding Weifan Electric Technology CO.,Ltd

企业简介

*COMPANY PROFILE

Weifan Electric Supply Chain

We are focusing on power transmission & distribution equipment business, and we have been specialized in this industry for more than 20 years and gaining the trust of our customers all over the world. We can offer you the best price and products for selling in your country, and we also hope you can contact us for a RFQ or RFP for starting our cooperation. Weifan Group is located in Hebei province China, just two hours from Beijing Capital Airport, have three modern and well-equipped facilities. Operations at these locations include design and manufacture of power resistors, reactors, special transformers, etc. that suit the Global Market requirements.

Our Product Category:

Transformer: Power Transformer, Distribution Transformer, Self Protected Transformer, Step Voltage Regulator, Compact Substation, Neutral Earthing transformer, High Current Transformers, Motor Starting AUTO Transformers, Metering unit, etc.

Neutral Grounding Equipment: Arc Suppression Coil, Transformer & Generator Neutral Grounding Resistance Cabinet

Power resistors: Neutral Grounding Resistor, Motor Starting & Control Resistor, Load Banks Resistor, Harmonic Filter Resistors, Dynamic Braking Resistors, Current Limiting Resistors, Sensing Resistors, Railway Resistive, etc.

MV & HV Reactors: Air Core Current Limiting Reactors, Neutral Grounding Reactors, Air Core Shunt Reactor, Air Core Harmonic Filter Reactors, Air Core Motor Starting Reactor, Air Core Electric Arc Furnace Reactor, Air core Smoothing Reactor, Air Core Line And Load Reactors, Air Core Test Lab Reactors, PLC Line Traps, Medium Voltage Iron Core Oil-Immersed Shunt Reactors, Iron Core Current Limiting Reactors, Magnetically Shielded Air Core Current Limiting Reactors, etc.

Weifan also has an experienced technical and procurement team in the power industry, and has in-depth cooperation with many manufacturers shortlisted for the State Grid Corporation of China to jointly build a Chinese supply chain for high-voltage electrical products. In addition to our own products, we also provide global distributors with a full range of professional services such as bidding, procurement, product supervision and testing, and transportation of Chinese electrical products.

企业设备展示

生产加工设备

高压自动绕线机



箔绕机



三角立体绕线机



铁芯加工设备

干式变压器烘干炉



真空浇注罐



部分变压器成品



硅钢带纵剪生产线



铁芯横剪生产线



产品试验设备

雷电冲击测试仪



变压器油色谱分析仪

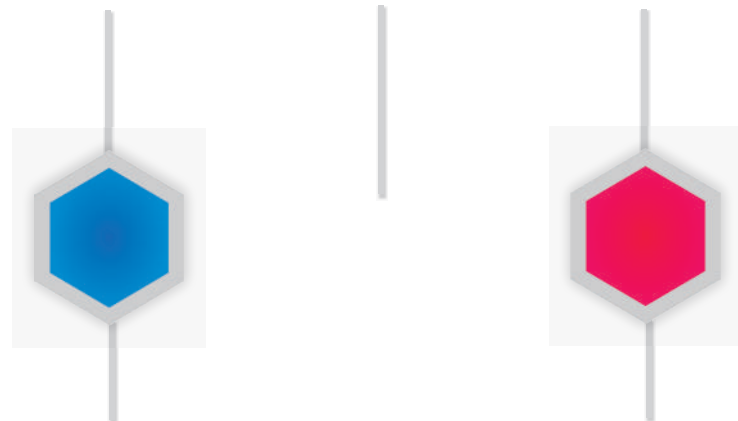


变压器实验控制台



变压器油综合实验室





品牌定位
Brands positioning

耐用电气设备专业制造商
Professional manufacture of durable electrical equipment

企业精神
Enterprise spirit

做电气行业的犀行者，专业，值得信赖！
To be the rhinoceros in electrcal industry,professional,trustworthy.



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变压器 Transformer

全国配电变压器电能损耗约为2300亿千瓦时，
相当于三峡全年发电量的2.3倍，
推广节能变压器，
功在当代，利在千秋。

S_7 S_9 S_{11} S_{13} S_{20} S_{22}
 SBH_{15} SBH_{21} SBH_{25}
 SCB_9 SCB_{10} SCB_{11} SCB_{12} SCB_{14} SCB_{18}
 $SCBH_{15}$ $SCBH_{17}$ $SCBH_{19}$ ·····

油浸式配电变压器 Energy efficient oil immersed power transformer

一级能效油浸变压器	非晶合金	SBH ₂₅ 系列	执行标准	GB20052-2020
	硅钢片	S ₂₂ 系列	执行标准	GB20052-2020

二级能效油浸变压器	非晶合金	SBH ₂₁ 系列	执行标准	GB20052-2020
	硅钢片	S ₂₀ 系列	执行标准	GB20052-2020

三级能效油浸变压器	非晶合金	SBH ₁₅ 系列	执行标准	GB20052-2020
	硅钢片	S ₁₃ 系列	执行标准	GB20052-2020

干式配电变压器 Dry type distribution transformer

一级能效干式变压器	非晶合金	SCBH ₁₉ 系列	执行标准	GB20052-2020
	硅钢片	SCB ₁₈ 系列	执行标准	GB20052-2020

二级能效干式变压器	非晶合金	SCBH ₁₇ 系列	执行标准	GB20052-2020
	硅钢片	SCB ₁₄ 系列	执行标准	GB20052-2020

三级能效干式变压器	非晶合金	SCBH ₁₅ 系列	执行标准	GB20052-2020
	硅钢片	SCB ₁₂ 系列	执行标准	GB20052-2020

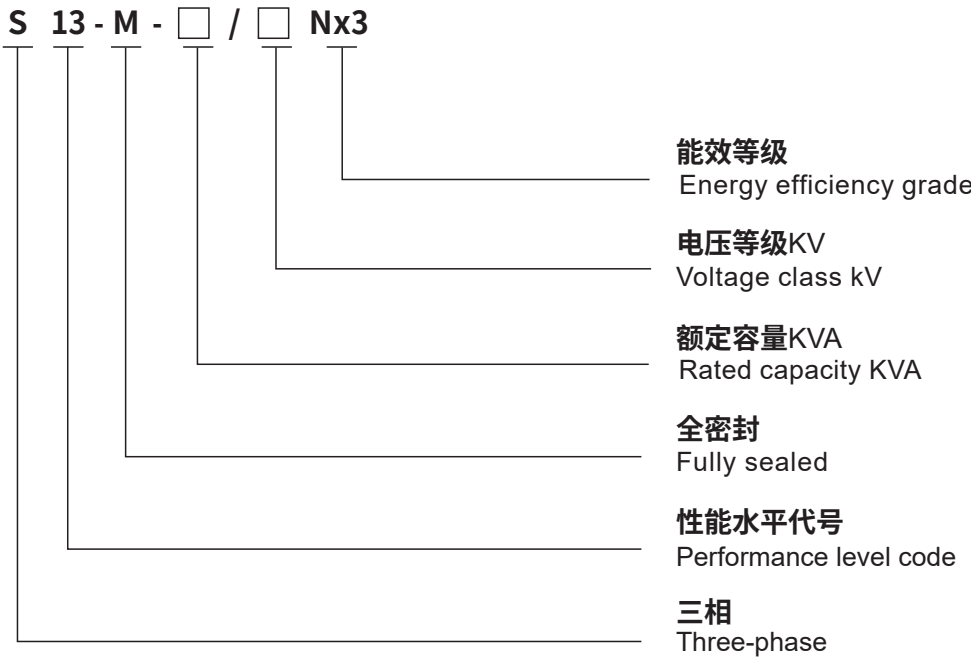
S₁₃ - Nx3型油浸式变压器

S₁₃ - Nx 3 oil immersed transformer



》》型号含义

》》 Model meaning



》》产品概述

》》 Product overview

S13-Nx3型 油浸式配电变压器是在S11型变压器的基础上，通过新材料，新工艺的研究运用及自主创新与技术引进相结合的方式，通过对铁芯及线圈结构的优化创新设计，达到降低空、负载损耗及噪音为目的而自主研发的产品。是供电系统中的重要设备，在工矿企业、农业和民用建筑中广泛使用，也可用于石油、化工行业中多油污、多化学物质的场所。

S13-Nx3 oil immersed distribution transformer is an independently developed product based on S11 transformer, through the research and application of new materials and new processes, the combination of independent innovation and technology introduction, and through the optimization and innovative design of iron core and coil structure, so as to reduce air and load loss and noise. It is an important equipment in power supply and distribution system. It is widely used in industrial and mining enterprises, agriculture and civil buildings. It can also be used in places with more oil and chemical substances in petroleum and chemical industries.

》》产品特点

》》 Product characteristics

- 激光加工叠铁芯产品最大容量不受限制，全新的结构设计和工艺优化大大降低了空载损耗，与S11型产品比较，S13型产品空载损耗平均降低了30%以上。
- 铁芯采用高导磁取向硅钢片制造，并采用了全密封波纹片油箱结构，外形美观，经济效益显著。
- 噪音水平与现行国际标准JB/T10088-2004比较平均水平下降20%，产品性能水平达到国内先进水平。
- the maximum capacity of laser processed laminated iron core products is not limited. The new structural design and process optimization greatly reduce the no-load loss. Compared with S11 products, the no-load loss of S13 products is reduced by more than 30% on average.
- the iron core is made of high magnetic conductivity oriented silicon steel sheet, and adopts fully sealed corrugated sheet oil tank structure, which has beautiful appearance and remarkable economic benefits.
- compared with the current international standard JB / t10088-2004, the average noise level decreases by 20%, and the product performance level reaches the domestic advanced level.

》》工作条件

》》 Working conditions

- 最高环境温度：+40℃；
 - 最低环境温度：-25℃；
 - 海拔高度：<1000m；
 - 最高月平均相对湿度：90%（20℃）；
 - 安装地点：户内或户外。
- maximum ambient temperature: + 40 ℃;
 - minimum ambient temperature: - 25 ℃;
 - altitude: < 1000m;
 - maximum monthly average relative humidity: 90% (20 ℃);
 - installation location: indoor or outdoor.

S₁₃ - Nx3型6~10KV油浸式电力变压器主要性能参数

(30~1600KVA Nx3级油浸式电力变压器)

Main performance parameters of s13-nx3 6 ~ 10kV oil immersed power transformer
(30 ~ 1600KVA Nx3 oil immersed power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss (W)	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分接范围 High voltage tap range	低压 Low voltage					
S13-M-30	30	6 6.3 10 10.5	±5% 或 ±2×2.5%	0.4	Dyn11 或 Yyn0	80	630/600	1.5	4
S13-M-50	50					100	910/870	1.3	4
S13-M-63	63					110	1090/1040	1.2	4
S13-M-80	80					130	1310/1250	1.2	4
S13-M-100	100					150	1580/1500	1.1	4
S13-M-125	125					170	1890/1800	1.1	4
S13-M-160	160					200	2310/2200	1.0	4
S13-M-200	200					240	2730/2600	1.0	4
S13-M-250	250					290	3200/3050	0.9	4
S13-M-315	315					340	3830/3650	0.9	4
S13-M-400	400					410	4520/4300	0.8	4
S13-M-500	500					480	5410/5150	0.8	4
S13-M-630	630					570	6200	0.6	4.5
S13-M-800	800					700	7500	0.6	4.5
S13-M-1000	1000					830	10300	0.6	4.5
S13-M-1250	1250					970	12000	0.5	4.5
S13-M-1600	1600					1170	14500	0.5	4.5
S13-M-2000	2000					1360	18300	0.4	5
S13-M-2500	2500					1600	21200	0.4	5

注1：对于额定容量为500KVA级以下的变压器，表中斜线左方的负载损耗值适用于Dyn11, 斜线右方的负载损耗值适用于Yyn0。
注2：其它容量的产品性能参数，由用户与本厂协商确定

Note 1: For transformers with rated capacity below 500KVA, the load loss value on the left of the slash in the table is applicable to Dyn11, and the load loss value on the right of the slash is applicable to Yyn0
Note 2:The product performance parameters of other capacities shall be determined by the user through consultation with the factory

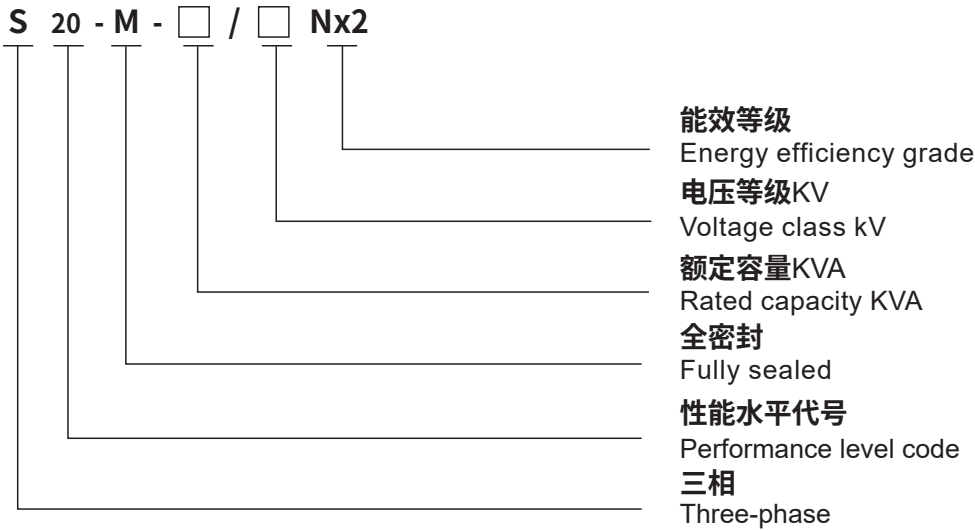
S₂₀ - Nx2型油浸式变压器

S₂₀ - nx2 oil immersed transformer



》》型号含义

》》Model meaning



》》产品概述

》》Product overview

S20-Nx2油浸式变压器是我公司通过新材料，新工艺的研究运用及自主创新与技术引进相结合的方式，通过对铁芯及线圈结构的优化创新设计，达到降低空、负载损耗及噪音为目的而研发的产品。噪音水平与现行国标JB/T10088-2004比较平均水平下降25%，产品性能水平达到国内先进水平。

S20-nx2 oil immersed transformer is a product developed by our company through the research and application of new materials and new processes, the combination of independent innovation and technology introduction, and the optimization and innovative design of iron core and coil structure to reduce air and load loss and noise. Compared with the current national standard JB / t10088-2004, the average noise level decreased by 25%, and the product performance level reached the domestic advanced level.

》》工作条件 《《 Working conditions

- 最高环境温度：+40℃；
 - 最低环境温度：-25℃；
 - 最高月平均相对湿度：90%（20℃）；
 - 安装地点：户内或户外。
- maximum ambient temperature: + 40 ℃;
 - minimum ambient temperature: - 25 ℃;
 - maximum monthly average relative humidity: 90% (20 ℃);
 - installation location: indoor or outdoor.

S₂₀ - Nx2型6~10KV油浸式电力变压器主要性能参数
(30~1600KVA Nx2级油浸式电力变压器)

Main performance parameters of s20-nx26 ~ 10kV oil immersed power transformer
(30 ~ 1600KVA NX2 oil immersed power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss (W)	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分接范围 High voltage tap range	低压 Low voltage					
S20-M-30-Nx2	30	6 6.3 10 10.5	±5% 或 ±2×2.5%	0.4	Dyn11	70	505/480	4	0.5
S20-M-50-Nx2	50					90	730/695	4	0.5
S20-M-63-Nx2	63					100	870/830	4	0.5
S20-M-80-Nx2	80					115	1050/1000	4	0.45
S20-M-100-Nx2	100					135	1265/1200	4	0.45
S20-M-125-Nx2	125					150	1510/1440	4	0.45
S20-M-160-Nx2	160					180	1850/1760	4	0.4
S20-M-200-Nx2	200					215	2185/2080	4	0.4
S20-M-250-Nx2	250					260	2560/2440	4	0.4
S20-M-315-Nx2	315				Yyn0	305	3065/2920	4	0.35
S20-M-400-Nx2	400					370	3615/3440	4	0.35
S20-M-500-Nx2	500					430	4330/4120	4	0.3
S20-M-630-Nx2	630					510	4960	4.5	0.25
S20-M-800-Nx2	800					630	6000	4.5	0.18
S20-M-1000-Nx2	1000					745	8240	4.5	0.17
S20-M-1250-Nx2	1250					870	9600	4.5	0.17
S20-M-1600-Nx2	1600					1050	11600	4.5	0.16
S20-M-2000-Nx2	2000					1225	14640	5	0.16
S20-M-2500-Nx2	2500					1440	16960	5	0.16

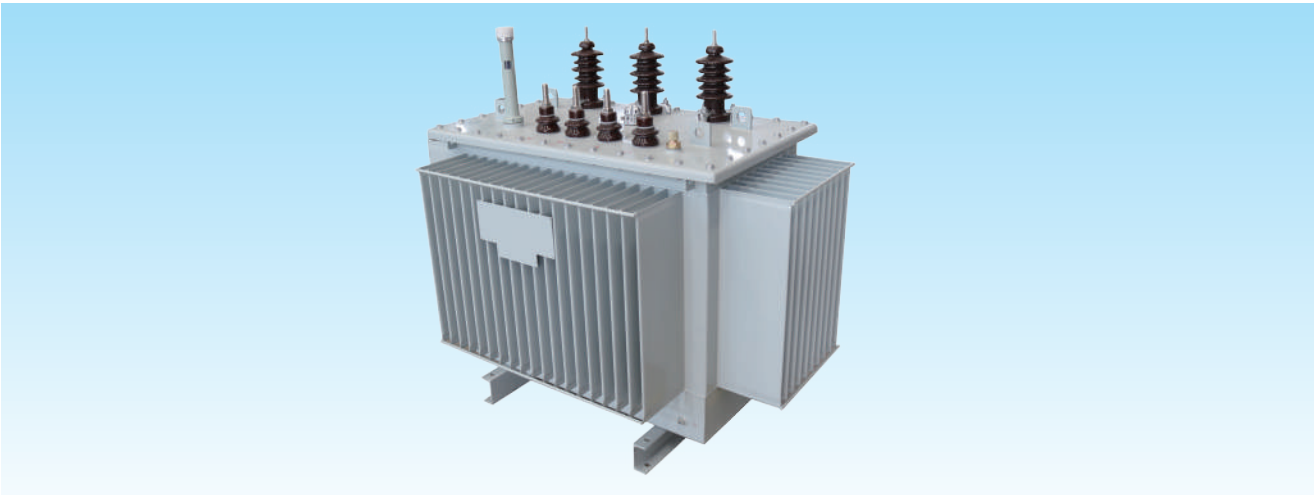
注1：对于额定容量为500KVA级以下的变压器，表中斜线左方的负载损耗值适用于Dyn11，斜线右方的负载损耗值适用于Yyn0。

注2：其它容量的产品性能参数，由用户与本厂协商确定

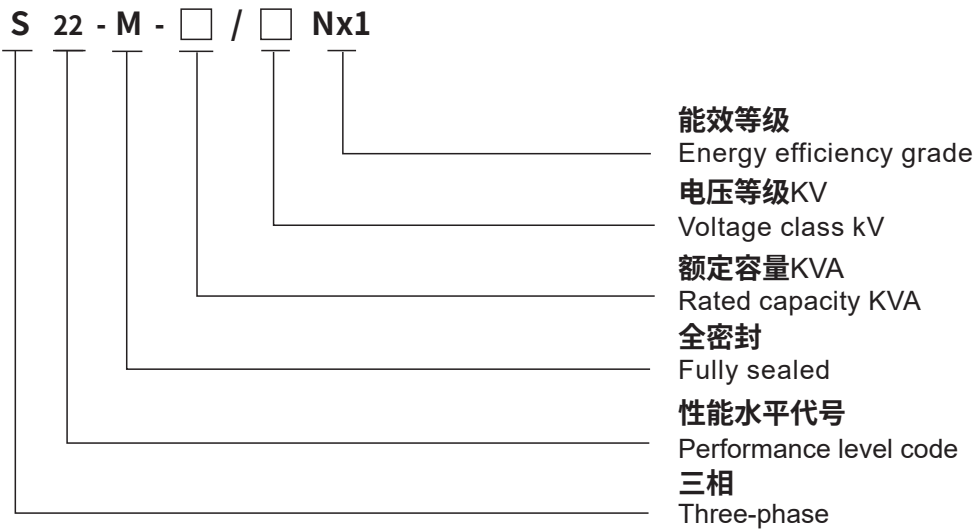
Note 1: For transformers with rated capacity below 500KVA, the load loss value on the left of the slash in the table is applicable to Dyn11, and the load loss value on the right of the slash is applicable to Yyn0

Note 2: The product performance parameters of other capacities shall be determined by the user through consultation with the factory

S₂₂ - Nx1型油浸式变压器
S22 - Nx1 oil immersed transformer



》》型号含义 《《 Model meaning



》》产品概述 《《 Product overview

S22-Nx1级油浸式变压器是我公司在S20-Nx2级的基础上通过最新材料，最新工艺的研究运用及自主创新与技术引进相结合的方式，通过对铁芯及线圈结构的创新设计，更优化，更节能，达到降低空、负载损耗及噪音为目的而研发的产品。噪音水平与现行国标JB/T10088-2004比较平均水平下降30%，产品性能水平达到国内先进水平。

S22-nx1 oil immersed transformer is a product developed by our company on the basis of s20-nx2 through the research and application of the latest materials and processes, the combination of independent innovation and technology introduction, and through the innovative design of iron core and coil structure, it is more optimized and energy-saving, so as to reduce air and load loss and noise. Compared with the current national standard JB / t10088-2004, the average noise level decreased by 30%, and the product performance level reached the domestic advanced level.

》》工作条件 《《 Working conditions

- 最高环境温度：+40℃；
 - 最低环境温度：-25℃；
 - 海拔高度：<1000m；
 - 最高月平均相对湿度：90%（20℃）；
 - 安装地点：户内或户外。
- maximum ambient temperature: + 40 ℃;
 - minimum ambient temperature: - 25 ℃;
 - altitude: < 1000m;
 - maximum monthly average relative humidity: 90% (20 ℃);
 - installation location: indoor or outdoor.

S22 - Nx1型6~10KV油浸式电力变压器主要性能参数
(30~1600KVA Nx1级油浸式电力变压器)

Main performance parameters of s20- nx16 ~ 10kV oil immersed power transformer
(30 ~ 1600KVA NX1 oil immersed power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss (W)	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分接范围 High voltage tap range	低压 Low voltage					
S20-M-30-Nx 1	30	6 6.3 10 10.5	±5% 或 ±2×2.5%	0.4	Dyn11	65	455/430	0.5	4
S20-M-50-Nx 1	50					80	655/625	0.5	4
S20-M-63-Nx 1	63					90	785/745	0.5	4
S20-M-80-Nx 1	80					105	945/900	0.45	4
S20-M-100-Nx 1	100					120	1140/1080	0.45	4
S20-M-125-Nx 1	125					135	1360/1295	0.45	4
S20-M-160-Nx 1	160					160	1665/1585	0.4	4
S20-M-200-Nx 1	200					190	1970/1870	0.4	4
S20-M-250-Nx 1	250					230	2300/2195	0.4	4
S20-M-315-Nx 1	315					270	2760/2630	0.35	4
S20-M-400-Nx 1	400				YynO	330	3250/3095	0.35	4
S20-M-500-Nx 1	500					385	3900/3710	0.3	4
S20-M-630-Nx 1	630					460	4460	0.25	4.5
S20-M-800-Nx 1	800					560	5400	0.18	4.5
S20-M-1000-Nx 1	1000					665	7415	0.17	4.5
S20-M-1250-Nx 1	1250					780	8640	0.17	4.5
S20-M-1600-Nx 1	1600					940	10440	0.16	4.5
S20-M-2000-Nx 1	2000					1085	13180	0.16	5
S20-M-2500-Nx 1	2500					1280	15265	0.16	5

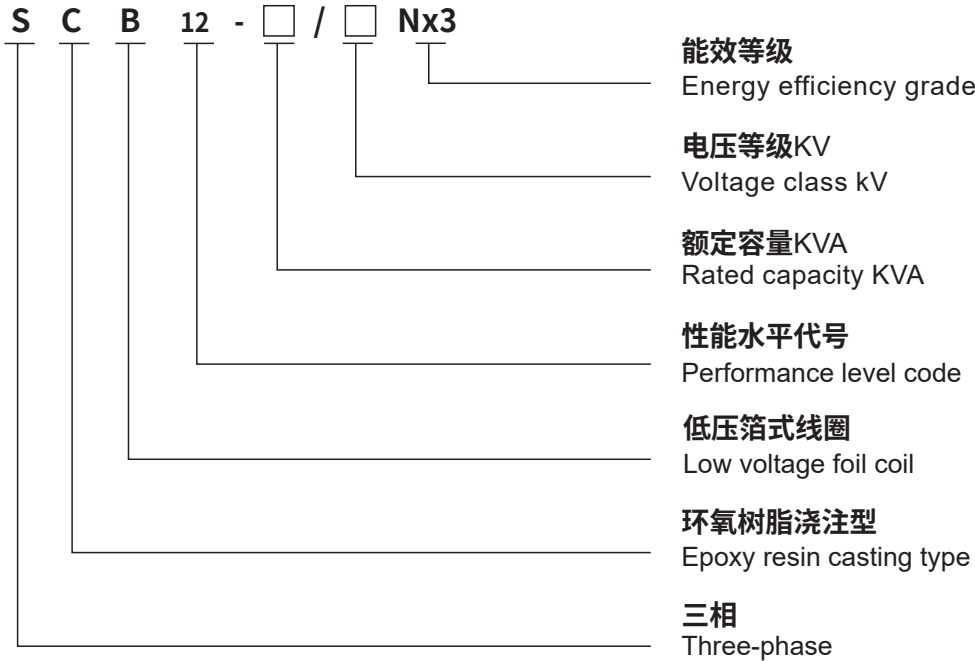
注1：对于额定容量为500KVA级以下的变压器，表中斜线左方的负载损耗值适用于Dyn11, 斜线右方的负载损耗值适用于Yyn0。
注2：其它容量的产品性能参数，由用户与本厂协商确定

Note 1: for transformers with rated capacity below 500KVA, the load loss value on the left of the slash in the table is applicable to Dyn11, and the load loss value on the right of the slash is applicable to Yyn0
Note 2: the product performance parameters of other capacities shall be determined by the user through consultation with the factory

SCB12 - Nx3级干式变压器
Scb12 - nx3 dry type transformer



》》型号含义 《《 Model meaning



》》产品特点》》Product characteristics

- 与SCB10型产品相比，空载损耗下降20%以上，节能效果优异，运行经济，免维护。
- 噪音水平得到降低，噪音水平比现行专业标准JB/T10088-2016《6-220KV级变压器声级》低10~15分贝以上。
- 机械强度高，抗短路能力强；阻燃、防爆、无污染；
- 免维护；防潮性好，可在100%湿度下运行，投运前无需预热处理，间断运行无须去潮处理；
- 外形尺寸小，重量轻，不开裂，表面无龟纹，局放低；
- 绝缘水平高、耐雷电冲击性能好；
- 散热能力强，强迫风冷条件下可带额定负载运行。
- Compared with scb10 products, the no-load loss is reduced by more than 20%, with excellent energy-saving effect, economical operation and maintenance free.
- The noise level has been reduced, and the noise level is more than 10 ~ 15 dB lower than the current professional standard JB / t10088-2016 6-220KV transformer sound level.
- High mechanical strength and strong short-circuit resistance; Flame retardant, explosion-proof and pollution-free;
- Maintenance free; It has good moisture resistance and can operate under 100% humidity. There is no need to preheat before operation, and there is no need to dehumidify during intermittent operation;
- Small overall dimension, light weight, no cracking, no moire on the surface and low partial discharge;
- High insulation level and good lightning and electric shock resistance;
- It has strong heat dissipation capacity and can operate with rated load under forced air cooling conditions.

》》工作条件》》Working conditions

- 最高环境温度：+40℃；
- 最低环境温度：-5℃；
- 海拔高度：<1000m；
- 最高月平均相对湿度：90%（20℃）；
- 安装地点：无明显污秽，户内使用。
- maximum ambient temperature: + 40 °C;
- minimum ambient temperature: - 5 °C;
- altitude: < 1000m;
- maximum monthly average relative humidity: 90% (20 °C);
- installation location: no obvious pollution, indoor use.

SCB12 - Nx3型6~10KV环氧树脂干式变压器主要性能参数
(30~2500KVA能效三级干式电力变压器)

Main performance parameters of SC (b) 12-nx36 ~ 10kV Epoxy Resin Dry-Type Transformer
(30 ~ 2500kVA energy efficiency class III dry-type power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss W	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分接范围 High voltage tap range	低压 Low voltage					
SC12-30-Nx3	30	6 6.3 10 10.5	±5% 或 ±2×2.5%	0.4	Dyn11 或 YynO	150	710	2.0	4
SC12-50-Nx3	50					215	1000	2.0	4
SC12-80-Nx3	80					295	1380	1.5	4
SC12-100-Nx3	100					320	1570	1.5	4
SC12-125-Nx3	125					375	1850	1.3	4
SC12-160-Nx3	160					430	2130	1.3	4
SC12-200-Nx3	200					495	2530	1.1	4
SC12-250-Nx3	250					575	2760	1.1	4
SCB12-315-Nx3	315					705	3470	1.0	4
SCB12-400-Nx3	400					785	3990	1.0	4
SCB12-500-Nx3	500					930	4880	1.0	4
SCB12-630-Nx3	630					1070	5880	0.85	4
SCB12-630-Nx3	630					1040	5960	0.85	6
SCB12-800-Nx3	800					1215	6960	0.85	6
SCB12-1000-Nx3	1000					1415	8130	0.85	6
SCB12-1250-Nx3	1250					1670	9690	0.85	6
SCB12-1600-Nx3	1600					1960	11730	0.85	6
SCB12-2000-Nx3	2000					2440	14450	0.7	6
SCB12-2500-Nx3	2500					2880	17170	0.7	6

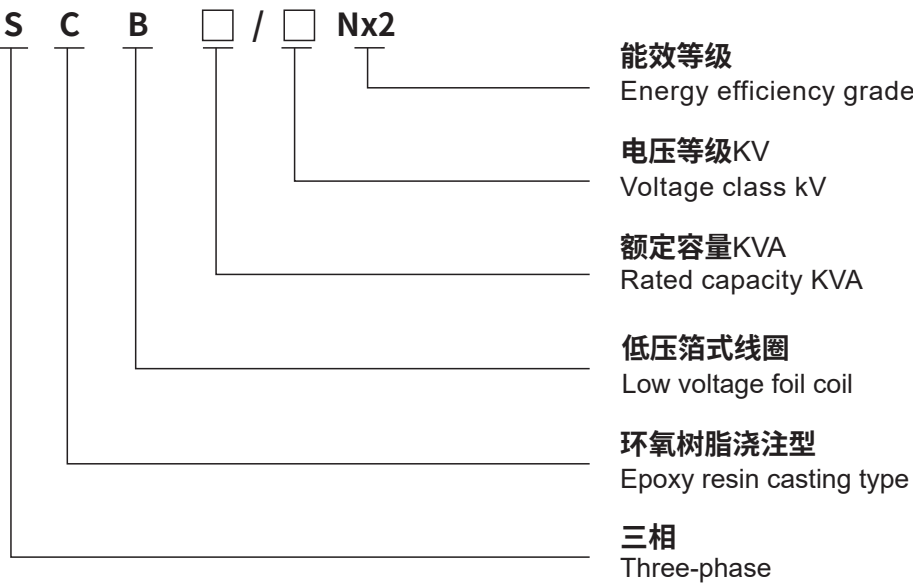
SCB₁₄ - Nx2级干式变压器
Scb₁₄ - nx2 dry type transformer



》》产品特点 》》 Product characteristics

- 与SCB10型产品相比，空载损耗下降30%以上，且所有损耗低于SCB12型变压器，节能效果优异，运行经济。
- 噪音水平得到降低，噪音水平比现行专业标准JB/T10088-2016《6-220KV级变压器声级》低10~15分贝以上；
- 机械强度高，抗短路能力强；阻燃、防爆、无污染；
- 免维护；防潮性好，可在100%湿度下运行，投运前无需预热处理，间断运行无须去潮处理；
- 外形尺寸小，重量轻，不开裂，表面无龟纹，局放低；
- 绝缘水平高、耐雷电冲击性能好；
- 散热能力强，强迫风冷条件下可带额定负载运行。
- Compared with scb10 type transformer, the no-load loss is reduced by more than 30%, and all losses are lower than scb12 type transformer. It has excellent energy-saving effect and economical operation.
- The noise level has been reduced, and the noise level is more than 10 ~ 15 dB lower than the current professional standard JB / t10088-2016 sound level of 6-220KV transformer;
- High mechanical strength and strong short-circuit resistance; Flame retardant, explosion-proof and pollution-free;
- Maintenance free; It has good moisture resistance and can operate under 100% humidity. There is no need to preheat before operation, and there is no need to dehumidify during intermittent operation;
- Small overall dimension, light weight, no cracking, no moire on the surface and low partial discharge;
- High insulation level and good lightning and electric shock resistance;
- It has strong heat dissipation capacity and can operate with rated load under forced air cooling conditions.

》》型号含义 》》 Model meaning



》》工作条件 》》 Working conditions

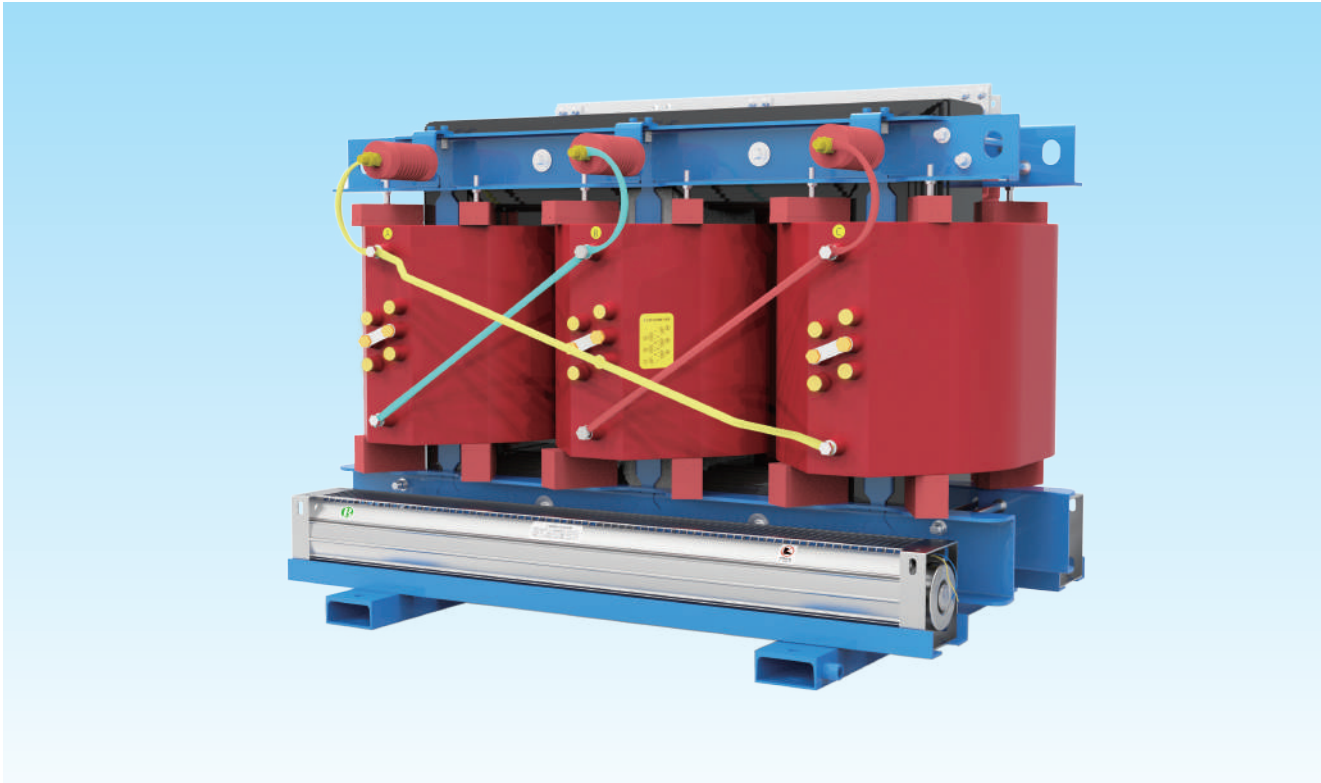
- 最高环境温度：+40℃；
- 最低环境温度：-5℃；
- 海拔高度：<1000m；
- 最高月平均相对湿度：90%（20℃）；
- 安装地点：无明显污秽，户内使用。
- maximum ambient temperature: + 40 °C;
- minimum ambient temperature: - 5 °C;
- altitude: < 1000m;
- maximum monthly average relative humidity: 90% (20 °C);
- installation location: no obvious pollution, indoor use.

SCB₁₄ - Nx2型6~10KV环氧树脂干式变压器主要性能参数
(30~2500KVA能效二级干式电力变压器)

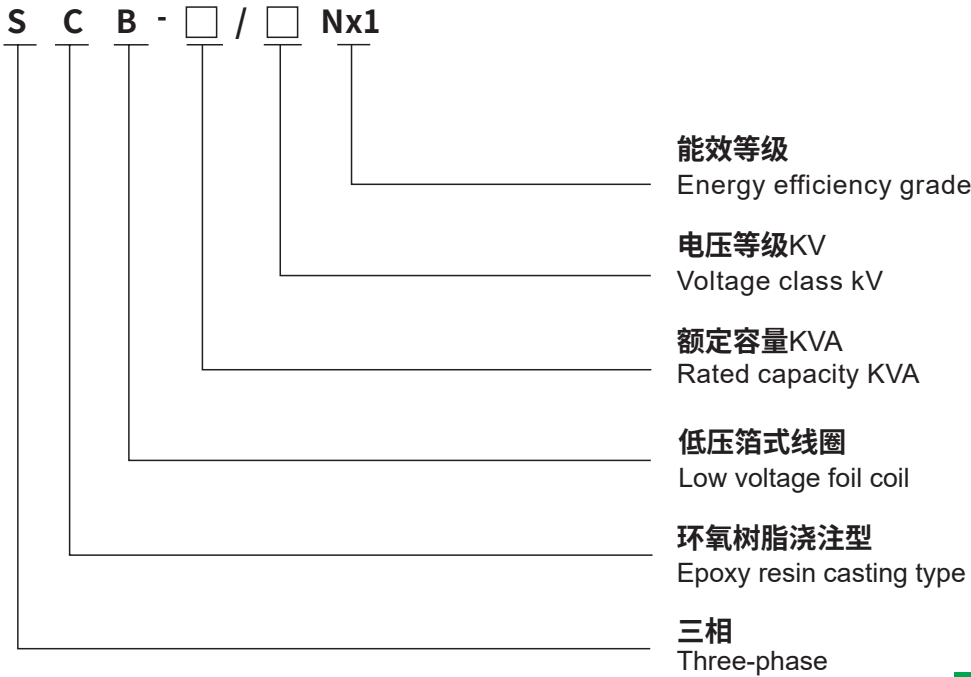
Main performance parameters of SC (b) 14-nx2 6 ~ 10kV Epoxy Resin Dry-Type Transformer
(30 ~ 2500kVA energy efficiency class II dry-type power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss (W)	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分接范围 High voltage tap range	低压 Low voltage					
SC14-30-Nx2	30	6 6.3 10 10.5	+3 -1 ±5% ±2×2.5% 或 ×2.5%	0.4	Dyn11 或 YynO	130	640	2.0	4
SC14-50-Nx2	50					185	900	2.0	4
SC14-80-Nx2	80					250	1240	1.5	4
SC14-100-Nx2	100					270	1415	1.5	4
SC14-125-Nx2	125					320	1665	1.3	4
SC14-160-Nx2	160					365	1915	1.3	4
SC14-200-Nx2	200					420	2275	1.1	4
SC14-250-Nx2	250					490	2485	1.1	4
SCB14-315-Nx2	315					600	3125	1.0	4
SCB14-400-Nx2	400					665	3590	1.0	4
SCB14-500-Nx2	500					790	4390	1.0	4
SCB14-630-Nx2	630					910	5290	1.0	4
SCB14-630-Nx2	630					885	5365	0.85	6
SCB14-800-Nx2	800					1035	6265	0.85	6
SCB14-1000-Nx2	1000					1205	7315	0.85	6
SCB14-1250-Nx2	1250					1420	8720	0.85	6
SCB14-1600-Nx2	1600					1665	10555	0.85	6
SCB14-2000-Nx2	2000					2075	13005	0.7	6
SCB14-2500-Nx2	2500					2450	15445	0.7	6

SCB₁₈ - Nx1级干式变压器
Scb18-nx1 dry type transformer



》》 型号含义 》》 Model meaning



》》产品特点》》Product characteristics

- 与SCB10型产品相比，空载损耗下降40%以上，且所有损耗均低于SCB13型变压器，节能效果优异，运行经济。
- 噪音水平得到降低，噪音水平比现行专业标准JB/T10088-2016《6-220KV级变压器声级》低15~20分贝以上。
- 机械强度高，抗短路能力强；阻燃、防爆、无污染；
- 免维护；防潮性好，可在100%湿度下运行，投运前无需预热处理，间断运行无须去潮处理；
- 外形尺寸小，重量轻，不开裂，表面无龟纹，局放低；
- 绝缘水平高、耐雷电冲击性能好；
- 散热能力强，强迫风冷条件下可带额定负载运行。
- Compared with scb10 type transformer, the no-load loss is reduced by more than 40%, and all losses are lower than scb13 type transformer. It has excellent energy-saving effect and economical operation.
- The noise level has been reduced, which is more than 15 ~ 20 dB lower than the current professional standard JB /t10088-2016 sound level of 6-220KV transformer.;
- High mechanical strength and strong short-circuit resistance; Flame retardant, explosion-proof and pollution-free;
- Maintenance free; It has good moisture resistance and can operate under 100% humidity. There is no need to preheat before operation, and there is no need to dehumidify during intermittent operation;
- Small overall dimension, light weight, no cracking, no moire on the surface and low partial discharge;
- High insulation level and good lightning and electric shock resistance;
- It has strong heat dissipation capacity and can operate with rated load under forced air cooling conditions.

》》工作条件》》Working conditions

- 最高环境温度：+40℃；
- 最低环境温度：-5℃；
- 海拔高度：<1000m；
- 安装地点：无明显污秽，户内使用。
- maximum ambient temperature: + 40 ℃;
- minimum ambient temperature: - 5 ℃;
- altitude: < 1000m;
- installation location: no obvious pollution, indoor use.

SCB18-Nx1型6~10KV环氧树脂干式变压器主要性能参数
(30~2500KVA能效一级干式电力变压器)

Main performance parameters of SC(b)18-nx16 ~ 10kV Epoxy Resin Dry-Type Transformer
(30 ~ 2500kVA energy efficiency class I dry-type power transformer)

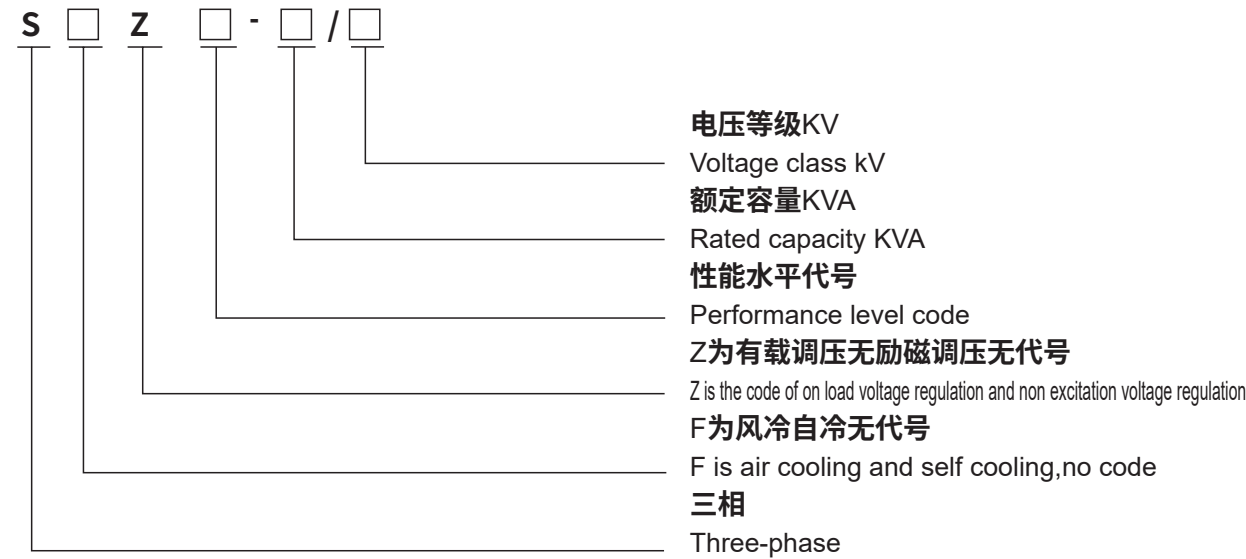
型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss (W)	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分接范围 High voltage tap range	低压 Low voltage					
SC18-30-Nx1	30	6	+3 -1 ±5% ±2×2.5% 或 ×2.5%	0.4	Dyn11 或 YynO	105	640	2.0	4
SC18-50-Nx1	50					155	900	2.0	4
SC18-80-Nx1	80					210	1240	1.5	4
SC18-100-Nx1	100					230	1415	1.5	4
SC18-125-Nx1	125					270	1665	1.3	4
SC18-160-Nx1	160					310	1915	1.3	4
SC18-200-Nx1	200					360	2275	1.1	4
SC18-250-Nx1	250					415	2485	1.1	4
SCB18-315-Nx1	315					510	3125	1.0	4
SCB18-400-Nx1	400					570	3590	1.0	4
SCB18-500-Nx1	500					670	4390	1.0	4
SCB18-630-Nx1	630					775	5290	1.0	4
SCB18-630-Nx1	630					750	5365	0.85	6
SCB18-800-Nx1	800					875	6265	0.85	6
SCB18-1000-Nx1	1000					1020	7315	0.85	6
SCB18-1250-Nx1	1250					1205	8720	0.85	6
SCB18-1600-Nx1	1600					1415	10555	0.85	6
SCB18-2000-Nx1	2000					1760	13005	0.7	6
SCB18-2500-Nx1	2500					2080	15445	0.7	6

35KV 电力变压器

35kV Power Transformer



》》 型号含义 《《 Model meaning



》》 产品概述 《《 Product overview

35KV电力变压器在设计上比较先进，在传统图纸的基础上，在材料、结构和工艺上进行了大幅度的改进和提高，抗短路能力强，外观造型美观，运行可靠损耗低，噪音小，达到国内外同类产品先进水平。

35kV Power transformer is relatively advanced in design. On the basis of traditional drawings, it has been greatly improved and improved in material, structure and technology. It has strong short-circuit resistance, beautiful appearance, reliable operation, low loss and low noise, reaching the advanced level of similar products at home and abroad.

》》 产品特点 《《 Product characteristics

- 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；
- 高低压线圈设纵向油道有利于散热，可大幅度降低铜油温差及线圈内部的最热点温升。
- high and low voltage clamps are tightened with steel straps or upper and side beams to form a solid frame structure to enhance the clamping force of iron core and the ability to withstand transportation impact;
- high and low voltage coils are equipped with longitudinal oil passages, which is conducive to heat dissipation and can greatly reduce the temperature difference between copper and oil and the temperature rise of the hottest spot inside the coil.

》》 工作条件 《《 Working conditions

- 最高环境温度：+40℃；
- 最低环境温度：-25℃；
- 海拔高度：<1000m；
- 最高月平均相对湿度：90%(20℃)
- 安装地点：户内或户外。
- maximum ambient temperature: + 40 ℃;
- minimum ambient temperature: - 25 ℃;
- altitude: < 1000m;
- maximum monthly average relative humidity: 90% (20 ℃);
- installation location: indoor or outdoor.

S₁₃系列35KV电力变压器主要性能参数
(630~31500KVA 三相双绕组无励磁调压电力变压器)

Main performance parameters of 35kV Power Transformer
(630 ~ 31500kva three-phase double winding non excitation voltage regulating power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No -load loss (W)	负载损耗 Load loss (W)	空载电流 No -load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分 接范围 High voltage tap range	低压 Low voltage					
S13-630-Nx3	630	35	±5% or ±2×2.5%	3.15 6.3 10.5	yd11	580	7860	0.65	6.5
S13-800-Nx3	800					690	9400	0.65	6.5
S13-1000-Nx3	1000					810	11500	0.65	6.5
S13-1250-Nx3	1250					980	13900	0.55	6.5
S13-1600-Nx3	1600					1180	16600	0.45	6.5
S13-2000-Nx3	2000					1520	18300	0.45	5.5
S13-2500-Nx3	2500					1790	19600	0.45	6.5
S13-3150-Nx3	3150	35 38.5	±5% or ±2×2.5%	3.15 6.3 10.5		2130	23000	0.45	7
S13-4000-Nx3	4000					2530	27300	0.45	7
S13-5000-Nx3	5000					3020	31300	0.45	7
S13-6300-Nx3	6300					3670	35000	0.45	8
S13-8000-Nx3	8000	35 38.5	±5% or ±2×2.5%	3.15 3.3 6.3 6.6 10.5	ynd11	5040	38400	0.35	8
S13-10000-Nx3	10000					6090	45300	0.35	8
S13-12500-Nx3	12500					7000	53800	0.30	8
S13-16000-Nx3	16000					8470	65800	0.30	8
S13-20000-Nx3	20000					10080	79500	0.30	8
S13-25000-Nx3	25000					11900	94000	0.25	10
S13-31500-Nx3	31500					14140	112000	0.25	10

注：在分接级数和级电压不变的情况下，允许增加负分接级数，减少正分接级数或增加正分接级数，减少负分接级数，如35×2.5%;35+3×2.5%等。

Note:Under the condition that the tapping stages and voltage remain unchanged,it is allowed to increase the negativetapping stages,reduce the positive tapping stages,or increase the positive tapping stages and reduce the negative tappingstages,such as 35 X 2.5%;35+3 X 2.5%,etc.

S₂₀系列35KV电力变压器主要性能参数
(630~31500KVA 三相双绕组无励磁调压电力变压器)

Main performance parameters of 35kV Power Transformer
(630 ~ 31500kva three-phase double winding non excitation voltage regulating power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No -load loss (W)	负载损耗 Load loss (W)	空载电流 No -load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分 接范围 High voltage tap range	低压 Low voltage					
S20-630-Nx2	630	35	±5% or ±2×2.5%	3.15 6.3 10.5	yd11	520	6290	0.65	6.5
S20-800-Nx2	800					620	7520	0.65	6.5
S20-1000-Nx2	1000					730	9200	0.65	6.5
S20-1250-Nx2	1250					880	11120	0.55	6.5
S20-1600-Nx2	1600					1060	13280	0.45	6.5
S20-2000-Nx2	2000					1370	14640	0.45	5.5
S20-2500-Nx2	2500					1610	15680	0.45	6.5
S20-3150-Nx2	3150	35 38.5	±5% or ±2×2.5%	3.15 6.3 10.5		1920	18400	0.45	7
S20-4000-Nx2	4000					2280	21840	0.45	7
S20-5000-Nx2	5000					2720	25040	0.45	7
S20-6300-Nx2	6300					3300	28000	0.45	8
S20-8000-Nx2	8000	35 38.5	±5% or ±2×2.5%	3.15 3.3 6.3 6.6 10.5	ynd11	4540	30720	0.35	8
S20-10000-Nx2	10000					5480	36240	0.35	8
S20-12500-Nx2	12500					6300	43040	0.30	8
S20-16000-Nx2	16000					7620	52640	0.30	8
S20-20000-Nx2	20000					9070	63600	0.30	8
S20-25000-Nx2	25000					10710	75200	0.25	10
S20-31500-Nx2	31500					12730	89600	0.25	10

注：在分接级数和级电压不变的情况下，允许增加负分接级数，减少正分接级数或增加正分接级数，减少负分接级数，如35×2.5%;35+3×2.5%等。

Note:Under the condition that the tapping stages and voltage remain unchanged,it is allowed to increase the negativetapping stages,reduce the positive tapping stages,or increase the positive tapping stages and reduce the negative tappingstages,such as 35 X 2.5%;35+3 X 2.5%,etc.

S₂₂系列35KV电力变压器主要性能参数
(630-31500KVA 三相双绕组无励磁调压电力变压器)

Main performance parameters of 35kV Power Transformer
(630-31500kva three-phase double winding non excitation voltage regulating power transformer)

型号 Model number	额定容量 Rated volume quantity (KVA)	电压组合 (KV) Voltage combination(KV)			联接组标号 Connection group label	空载损耗 No-load loss (W)	负载损耗 Load loss (W)	空载电流 No-load electricity (%)	短路阻抗 Short circuit resistance (%)
		高压 High voltage	高压分 接范围 High voltage tap range	低压 Low voltage					
S22-630-Nx1	630	35	±5% or ±2×2.5%	3.15 6.3 10.5	yd11	470	5660	0.65	6.5
S22-800-Nx1	800					560	6770	0.65	6.5
S22-1000-Nx1	1000					660	8280	0.65	6.5
S22-1250-Nx1	1250					790	10010	0.55	6.5
S22-1600-Nx1	1600					950	11950	0.45	6.5
S22-2000-Nx1	2000					1230	13180	0.45	5.5
S22-2500-Nx1	2500					1450	14110	0.45	6.5
S22-3150-Nx1	3150	35	±5% or ±2×2.5%	3.15 6.3 10.5	yd11	1730	16560	0.45	7
S22-4000-Nx1	4000					2050	19660	0.45	7
S22-5000-Nx1	5000					2450	22540	0.45	7
S22-6300-Nx1	6300	38.5				2970	25200	0.45	8
S22-8000-Nx1	8000	35	±5% or ±2×2.5%	3.15 3.3 6.3 6.6 10.5	ynd11	4090	27650	0.35	8
S22-10000-Nx1	10000					4930	32620	0.35	8
S22-12500-Nx1	12500					5670	38740	0.30	8
S22-16000-Nx1	16000					6860	47380	0.30	8
S22-20000-Nx1	20000					8160	57240	0.30	8
S22-25000-Nx1	25000					9640	67680	0.25	10
S22-31500-Nx1	31500					11460	80640	0.25	10

注：在分接级数和级电压不变的情况下，允许增加负分接级数，减少正分接级数或增加正分接级数，减少负分接级数，如35×2.5%;35+3×2.5%等。
Note:Under the condition that the tapping stages and voltage remain unchanged,it is allowed to increase the negativetapping stages,reduce the positive tapping stages,or increase the positive tapping stages and reduce the negative tappingstages,such as 35 X 2.5%;35+3 X 2.5%,etc.

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电气行业践行者

耐用电气设备专业制造商

China Electric Valley·Weifan Electric Supply Chain

Tel: +86312-7517886

WhatsApp/Tel: +86138322752

Address: China Electric Valley·Baoding Hebei

Website: www.electricvalley.net

Email: sales@electricvalley.net



高低压成套 控制设备 产品手册

High and low voltage control
equipment product brochure

企业简介

*COMPANY PROFILE

Weifan Electric Supply Chain

We are focusing on power transmission & distribution equipment business, and we have been specialized in this industry for more than 20 years and gaining the trust of our customers all over the world. We can offer you the best price and products for selling in your country, and we also hope you can contact us for a RFQ or RFP for starting our cooperation. Weifan Group is located in Hebei province China, just two hours from Beijing Capital Airport, have three modern and well-equipped facilities. Operations at these locations include design and manufacture of power resistors, reactors, special transformers, etc. that suit the Global Market requirements.

Our Product Category:

Transformer: Power Transformer, Distribution Transformer, Self Protected Transformer, Step Voltage Regulator, Compact Substation, Neutral Earthing transformer, High Current Transformers, Motor Starting AUTO Transformers, Metering unit, etc.

Neutral Grounding Equipment: Arc Suppression Coil, Transformer & Generator Neutral Grounding Resistance Cabinet

Power resistors: Neutral Grounding Resistor, Motor Starting & Control Resistor, Load Banks Resistor, Harmonic Filter Resistors, Dynamic Braking Resistors, Current Limiting Resistors, Sensing Resistors, Railway Resistive, etc.

MV & HV Reactors: Air Core Current Limiting Reactors, Neutral Grounding Reactors, Air Core Shunt Reactor, Air Core Harmonic Filter Reactors, Air Core Motor Starting Reactor, Air Core Electric Arc Furnace Reactor, Air core Smoothing Reactor, Air Core Line And Load Reactors, Air Core Test Lab Reactors, Plc Line Traps, Medium Voltage Iron Core Oil-Immersed Shunt Reactors, Iron Core Current Limiting Reactors, Magnetically Shielded Air Core Current Limiting Reactors, etc.

Weifan also has an experienced technical and procurement team in the power industry, and has in-depth cooperation with many manufacturers shortlisted for the State Grid Corporation of China to jointly build a Chinese supply chain for high-voltage electrical products. In addition to our own products, we also provide global distributors with a full range of professional services such as bidding, procurement, product supervision and testing, and transportation of Chinese electrical products.

企业设备展示

生产加工设备



高压自动绕线机



箔绕机



三角立体绕线机

铁芯加工设备



干式变压器烘干炉



真空浇注罐



部分变压器成品



硅钢带纵剪生产线



铁芯横剪生产线

产品试验设备



雷电冲击测试仪



变压器油品色谱分析仪



变压器实验控制台



变压器油品综合实验室

品牌定位

Brands positioning

耐用电气设备专业制造商

Professional manufacture of durable electrical equipment

企业精神

Enterprise spirit

做电气行业的犀行者，专业，值得信赖！

To be the rhinoceros in electrcal industry,professional,trustworthy.

专业

Professional

专家队伍
为产品
保驾护航
高标准
严要求
不断完善
专业技能

Expert team
Escort the products
High standards and
strict requirements
Constantly improve
professional skill

忠诚

Loyalty

信守承诺
忠实于
自己的产品
诚信于客户
尽职尽责
以顾客利益
为基准

Stick to your
promise
Be loyal to your
products
Be responsible for
your job
Be committed to the
interest of your
customers

积极

Positive

心态积极
工作积极
以公司
健康发展
为己任

Positive attitude
Work actively
Take the healthy
development pf the
company as one's
responsibility

合作

Cooperation

放下态度
彼此尊重
放下性格
彼此成就
互通有无
资源共享

Lay down attitude
and character
Respect each other
Mutal achievement
Mutal exchange of
needed products
Resource sharinge

共赢

All-win result

合作互利
共同发展
与员工共赢
与合作伙伴共赢
与客户共赢

Cooperation and
mutal benefit for
common
development
Achieve all-win
result with
employees
partners and
customers

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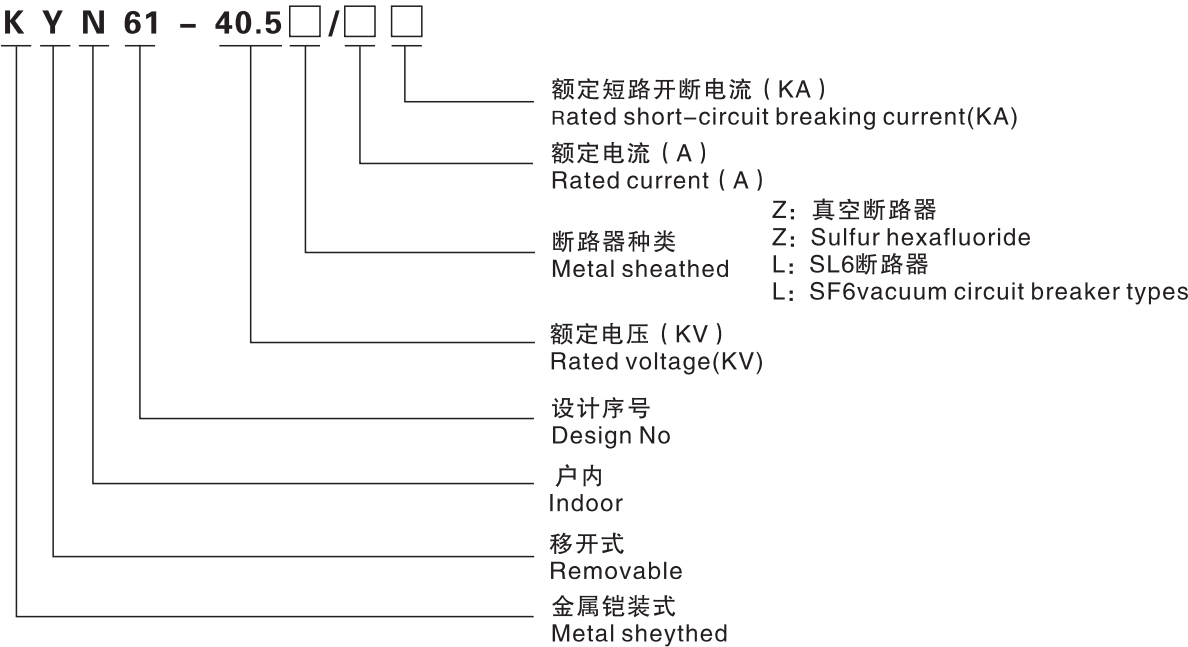


交流金属铠装移开式开关设备KYN61-40.5

AC Metal-clad Removable Open Switchgear KYN61-40.5



型号含义 《》 Model meaning



产品概述 《》 Product overview

KYN61-40.5交流金属铠装移开式开关设备适用于额定频率50HZ，额定电压40.5KV的三相交流电力系统，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，还可用于频繁操作的场所。

KYN61-40.5 appliestothe three-phase AC power system with rated frequency of 50HZ and rated voltage of 40.5KV. Itis used for receiving and distributing electric energy in the power distribution rooms of power plants, substations and industrial and mining companies, includingimplementing control, protection and monitoring on the circuit, and can also be used in the frequent operation situations.

产品特点 《》 Product Features

- 1.开关柜整体结构 The overall structure of the switchgear
1.1开关柜由柜体和可抽出部分（手车）两部分组成。柜体为敷铝锌钢板多重折弯及铆装装配而成，用螺栓栓接组合成型；
The switchgear consists of two parts: the cabinet and the extractable part (handcart). The cabinet is made of aluminum-zinc coated sheetby multiple bending and riveting for assembly, and boltedconnectingto form;
1.2用金属隔板将开关柜体内部分隔断为断路器室、主母线室、电缆室和继电器仪表室；
Use a metallicplate to divide the interior of the switch cabinet into a circuit-breaker room, a main busbar room, a cable room, and a relay instrument room;
1.3柜体防护等级达到IP4X，各隔室之间及断路器室门打开时防护等级为IP2X；
The protection level of cabinet is IP4X, andthe protection level between each compartment and in the moment when the circuit-breaker room is opened is IP2X;
1.4柜体中所有金属结构件可靠接地，主回路系统的隔室间有独立排气的压力释放通道。
All the metal structural components in the cabinet are reliably grounded, with separate pressure release channel between the main circuit system compartments.
- 2.手车 Handcart
手车根据用途可分为断路器手车、电压互感器手车、计量手车、隔离手车等。各类手车的外形尺寸相同、相同用途的手车具有良好的互换性。手车在柜内有试验、隔离位置和工作位置，每一处位置都设有联锁装置，以保证手车处于以上位置时不能随便移动。
According to the application, handcart can be divided into circuit breaker handcart, voltage transformer handcart, metering handcart, and isolated handcart, etc. The handcarts of all types have the same dimensions, and the same purpose of the handcart has a good interchangeability. In the cabinet, the handcart has the test, isolation and working position, and every position has aninterlocking device to ensure that the handcart cannot move freely in the position where it is set.
3. 操作机构和本体前后布置，利于调试；
The operating mechanism and the body are arranged in back and front, which facilitates to commissioning;
4. 母线表面采用热缩绝缘材料包覆，模拟母线板采用一种新型动态指示装置；
Cover the busbar surface with heat-shrinkable insulation material, and adopt a new type dynamic indicating device for the analog busbar block;
5. 接地开关具有较高的关合能力，且采用伞齿轮机构操作，操作力小。
The earthing switch has a high making capacity, and is operated by the bevel gear mechanism, with a low operating force.



工作条件 » » Working conditions

- 1.环境温度：-10℃~+40℃；

2.海拔高度：不超过1000m；

3.相对湿度：日平均值≤95%，月平均值≤90%；

4.安装场所：不适用于有腐蚀性、严重污秽，可燃性气体及剧烈振动的户内场所；

5.若超出以上条件，用户可与我公司协商。
- 1.Environment temperature: -10℃~+40℃；

2.Altitude: no more than 1000m；

3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%；

4.Installation site: not suitable for indoor places with corrosive, serious filth, flammable gas and severe vibration；

5.If it exceeds the above conditions, the user can negotiate with our company.

订货须知 » » Instruction of Order

- 订货时需提供以下资料：

1.主电路方案，编号或主电路组合排列图；

2.辅助电路电气原理图及控制回路电压；

3.开关设备平面布置图；

4.如有特殊需求，可与我公司协商。
- The following documents shall be provided when ordering:

1.The main circuit scheme, number or main circuit arrangement diagram；

2.Electrical schematic diagram of auxiliary circuit and control loop voltage；

3.layout plan for switchgear；

4.If there are any special needs, please negotiate with our company.

技术参数 » » Technical Parameter

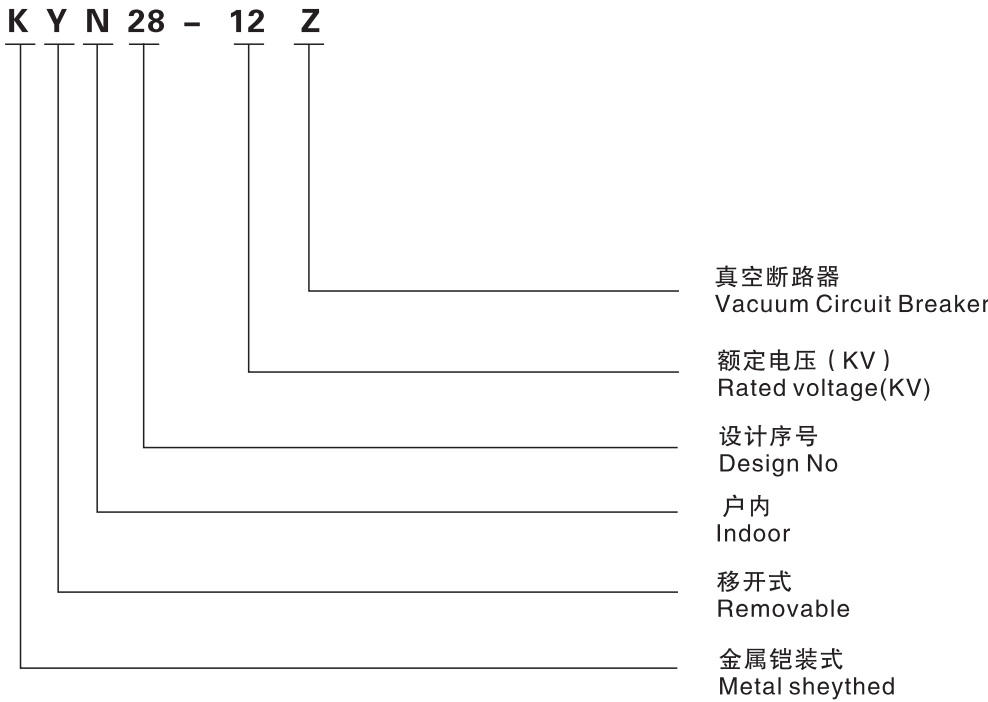
项目 Project		单位 Unit	参 数 Parameter
额定电压 Rated voltage		KV	40.5
额定频率 Rated frequency		HZ	50
额定电流 Rated current		A	630、1250、1600、2000
额定短路开断电流 Rated short circuit breaking current		KA	20、25、31.5
额定短路关合电流（峰值） Rated short ci rcuit current(peak)		KA	50、63、80
额定动稳定电流（峰值） Rated dynamic current(peak)		KA	50、63、80
4S热稳定电流（有效值） 4s thermal current(rms)		KA	20、25、31.5
额定绝缘水平 Rated insulatin level	雷电冲击耐压（全波） Lightning impulse withstand voltage(full wave)	KV	185、215
	工频耐压（1min） Power frequency withstand voltage(1min)	KV	95、118
柜体防护等级 protection level of cabinet		柜体防护等级IP4X 各隔室之间及断路器室门打开时IP2X The protection level of cabinet is IP4X, andthe protection level between each compartment and in the moment when the circuit-breaker room is opened is IP2X	

交流金属铠装移开式开关设备KYN28-12

AC Metal-clad Removable Open Switchgear KYN28-12



型号含义 » » Model meaning





产品概述 《》Product overview

KYN28-12型交流金属铠装移开式开关设备适用于额定频率50HZ、额定电压12KV的三相交流户内成套配电装置，作为发电厂、变电站及工矿企业接受和分配电能之用，并对电路实行控制、保护及监测。

KYN28-12 applies to the three-phase AC indoor distribution system with rated frequency of 50HZ and rated voltage of 12KV. It is used for receiving and distributing electric energy of power plants, substations and industrial and mining companies, and implementing control, protection and monitoring on the circuit.

产品特点 《》Product Features

1.柜体 Cabinet

柜体采用敷铝锌钢板多重折弯组装而成，外壳防护等级达到IP4X，各隔室防护等级为IP2X，并且所有金属结构件可靠接地，主回路系统的隔室间有独立排气的压力释放通道。柜体可配用ZN63A(VS1)、VD4、ZN12、3AH、VB2及VEP真空断路器、VC7真空接触器等断路器。

The cabinet is assembled by aluminum-zinc coated sheet via multiple bending, which the protection level of cabinet is up to IP4X, and other compartment protection level is IP2X. Besides, all the metal structural components in the cabinet are reliably grounded, with separate pressure release channel between the main circuit system compartments. Circuit-breakers such as ZN63A (VS1), VD4, ZN12, 3AH, VB2 and VEP vacuum circuit breakers and the VC7 vacuum contactors are available for the cabinet.

2.开关柜结构 Switchgear structure

开关柜由柜体和中置式可抽出部分（手车）两大部分组成。开关柜主要元器件都有独立的隔室，典型方案按功能特征分为继电器仪表室、母线室、手车室、电缆室四部分。各部分以接地的金属隔板分割组成一个全封闭铠装设备，因能阻止电弧延伸，使可能产生的故障限制在很小范围内。当某部分的元件需要更换和维修时，不需要全部停电，即可维修。开关柜可实现闭门操作，包括断路器分合闸，断路器手车推进至工作位置和退出至断开、试验位置以及接地开关的分合闸都能在高压隔室门关闭条件下进行。

The switchgear consists of two parts: the cabinet and the centrally-mounted extractable part (handcart). All the main components of the switchgear have separate compartments. According to the functional characteristics, the typical scheme is divided into four parts: the relay instrument room, the busbar room, the handcart room and the cable room. Every section is separated by a grounding metal baffle to constitute a totally enclosed armored device that prevents arc stretching and limits the possible failures to a tiny area. When one component element needs to be replaced and repaired, it can be repaired without all interruption. The switchgear can realize closed door operation, which includes circuit breaker opening and closing, circuit breaker handcart pushing to work position and exit to disconnection or test position, and close-open of earthing switch, can all be implemented when the high pressure compartment door is closed.

2.1 继电器仪表室 Relay instrument room

继电器仪表室内可安装继电保护元件、仪表、带电显示器以及特殊要求的二次元器件，在继电器的顶板上留有便于施工的小母线穿越孔。

Inside the relay instrument room, it can be installed with a relay protection component, a meter, a live display, and a secondary component with special requirements. The small hole for crossing busbar is left on the top plate of the relay to facilitate construction.

2.2 母线室 Busbar room

母线从一个开关柜引至另一个开关柜，通过分支母线和套管固定。矩形的分支母线直接用螺栓连接到主母线上，不需任何联接夹。所有母线和分支母线都用热缩套管覆盖。套管板和套管将柜与柜之间的母线隔离起来，并有支撑作用。

The busbars are routed from one switchgear to another, and fixed by branch busbars and bushings. The rectangular branch busbars are bolted directly to the main busbar without any coupling clips. All busbars and branch busbars are covered with heat shrink tubing. Bushing plates and bushings separate the busbars between the cabinets, and provide support.

2.3 手车室 Handcart room

手车骨架采用薄钢板经数控机床加工后组装而成。手车与柜体配合精确、移动灵活、机械联锁安全、可靠。根据不同用途手车分为断路器手车、电压互感器手车、计量手车、隔离手车。各类手车按模数，积木式变化，同规格手车可以自由互换。手车在柜体内有分离、试验位置和工作位置，每一位置都有定位装置，以保证联锁可靠。使用时必须按照联锁防误操作程序进行操作。

The handcart skeleton is assembled by thin steel plates processed by the CNC machine. The handcart and the cabinet match with each other precisely and flexibly, with the safe and reliable mechanical interlock. According to different applications, the handcart can be divided into circuit breaker handcart, voltage transformer handcart, metering handcart, and isolated handcart. All types of handcarts change based on modulus and cordwood system, and handcarts with the same specification can interchange freely. The handcart in the cabinet has a separation, test position and working position, where each position has a positioning device to ensure reliable interlocking. It must be operated in accordance with anti-maloperation procedure of the interlock.

2.4 电缆室 Cable room

电流互感器和接地开关装在电缆室后部。电缆室内也可安装避雷器。当电缆室门打开后，有足够的空间供施工人员进入柜内安装电缆。盖在电缆入口处的底板可采用非导磁的不锈钢板，是开缝的，可拆卸的，便于现场施工。底板中穿越一、二次电缆的变径密封圈开孔应与所装电缆相适应，以防小动物进入。

The current transformer and grounding switch are mounted at the rear of the cable room. An arrester can also be installed inside the cable room. When the cable compartment door opens, there is enough space for the constructor to enter to install cables. The bottom plate covered at the entrance of cables can be made of non-magnetic stainless steel plate, which is slit and detachable, convenient for site construction. The reducing sealing ring opening of the bottom plate which passes through the primary and secondary cables should adapt to the installed cables to prevent small animals from entering.

3. 防止误操作联锁装置 Anti-maloperation interlocks devices

开关柜内装有安全可靠的联锁装置，满足五防的要求。

The switchgear is equipped with a safe and reliable interlocking device to meet the requirements of the five preventions.

3.1 防止带负荷拉刀闸:高压配电柜内的真空断路器在工作合闸运行时，无法退出小车断路器的工作位置;

Prevent the on-load broach: The vacuum circuit breaker in the high-voltage power distribution cabinet cannot exit the working position of the trolley circuit breaker during the broach enclosing operation;

3.2防止带负荷合闸:高压配电柜内的真空断路器小车在试验位置合闸后，小车断路器无法进入工作位置;

Prevent broach enclosing on-load: If the broach encloses when vacuum circuit breaker trolley in the high-voltage power distribution cabinet is at the test position, the trolley circuit breaker cannot enter the working position;



3.3 防止带电挂接地线:高压配电柜内的真空断路器在工作时合闸，合接地刀无法投入；

Preventconnecting the grounding line charged:When the vacuum circuit breaker in the high–voltage power distribution cabinet is closed during operation, and the grounding knife cannot be put into use;

3.4 防止带接地线合闸:高压配电柜内的接地刀在合位时，小车断路器无法进合闸；

Prevent closing broach with the grounding wire: When the grounding knife in the high–voltage power distribution cabinet is in the closed position, the trolley circuit breaker cannot close;

3.5 防止误入带电间隔:高压配电柜内的真空断路器在合闸工作时，盘柜后门用接地刀上的机械与柜门闭锁。

Prevent accidental access tocharginginterval: When the vacuum circuit breaker in the high–voltage power distribution cabinet is closed to run, lock the back door of the cabinet with the machinery of the grounding knife.

4.带电显示装置 Live display device

开关柜内可设有带电显示装置。该装置由高压传感器和显示器两部份置组成，该装置不但可以提示高压回路带电状况，而且还可以与电磁锁配合，实现强制闭锁接地开关手柄，达到防止带电关合接地开关。

A live display device can be offered inside the switchgear. The device is composed of a high–pressure sensor and a displayer, which not only can indicate the charging condition of the high–voltage circuit, but also can cooperate with the electromagnetic lock to realize the forced locking of the grounding switch handle to prevent closing the grounding switch charged.

5.泄压装置 Depressurization Device

断路器手车室、母线室和电缆室的上方均设有泄压通道，当断路器或母线室发生内部故障时，伴随电弧的出现，开关柜内部气压升高，顶部泄压金属板将被打开，释放压力和气体，以确保操作人员和设备的安全。

There are pressure relief channels above the circuit breaker handcart brooms, busbar rooms and cable rooms. When an internal fault occurs inside the circuit breaker or busbar room, the air pressure inside the switchgear will increase with the appearance of the arc, and the top pressure relief metal plate will be openedto release pressure and gas to ensure the operator and equipment safety.

6. 防凝露和腐蚀 Anti–condensation and Anti–corrosion

开关柜手车室、电缆室均设有加热装置，以防止在高湿度和温度变化较大的气候环境中产生凝露带来的危险。加热器的工作有手动控制和湿度自动控制两种。

The switchgear handcart room and cable room are both equipped with heating devices to prevent the danger brought by condensation in the climates of high humidity and temperature changes. The heater working mechanism are separated into manual control and automatic humidity control.

7. 接地装置 EarthingDevice

在电缆室内单独设有接地铜排，此母排能贯穿相邻各柜，与柜体良好接触，也可供直接接地之元器件使用。

Inside the cable room, theearthing copper bar is palced separately, which can penetrate through the adjacent cabinets, maintaininga good contact with the cabinet, and can also be used for the directly groundedelements.

工作条件 《》 Working conditions

- | | |
|---|---|
| 1.环境温度：–25℃~+40℃ | 1.Environment temperature: –25℃~+40℃; |
| 2.海拔高度：不高于1000m | 2.Altitude: No more than 1000m; |
| 3.相对湿度：日平均值≤95%，月平均值≤90%； | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4.地震烈度：不超过8度 | 4.Earthquake intensity: No more than 8 degrees |
| 5.安装场所：空气应不受腐蚀性或可燃气体、水蒸气等明显污染，无剧烈振动的户内场所； | 5.Installation site: The air shall be free from the pollution from the corrosive or flammable gas, vapour. And shall be the indoor site with no severe vibration; |
| 6.超出正常使用条件时，由用户与本公司协商。 | 6.If it exceeds the normal use conditions, the user can negotiate with our company. |

订货须知 《》 Instruction of Order

订货时需提供以下资料：

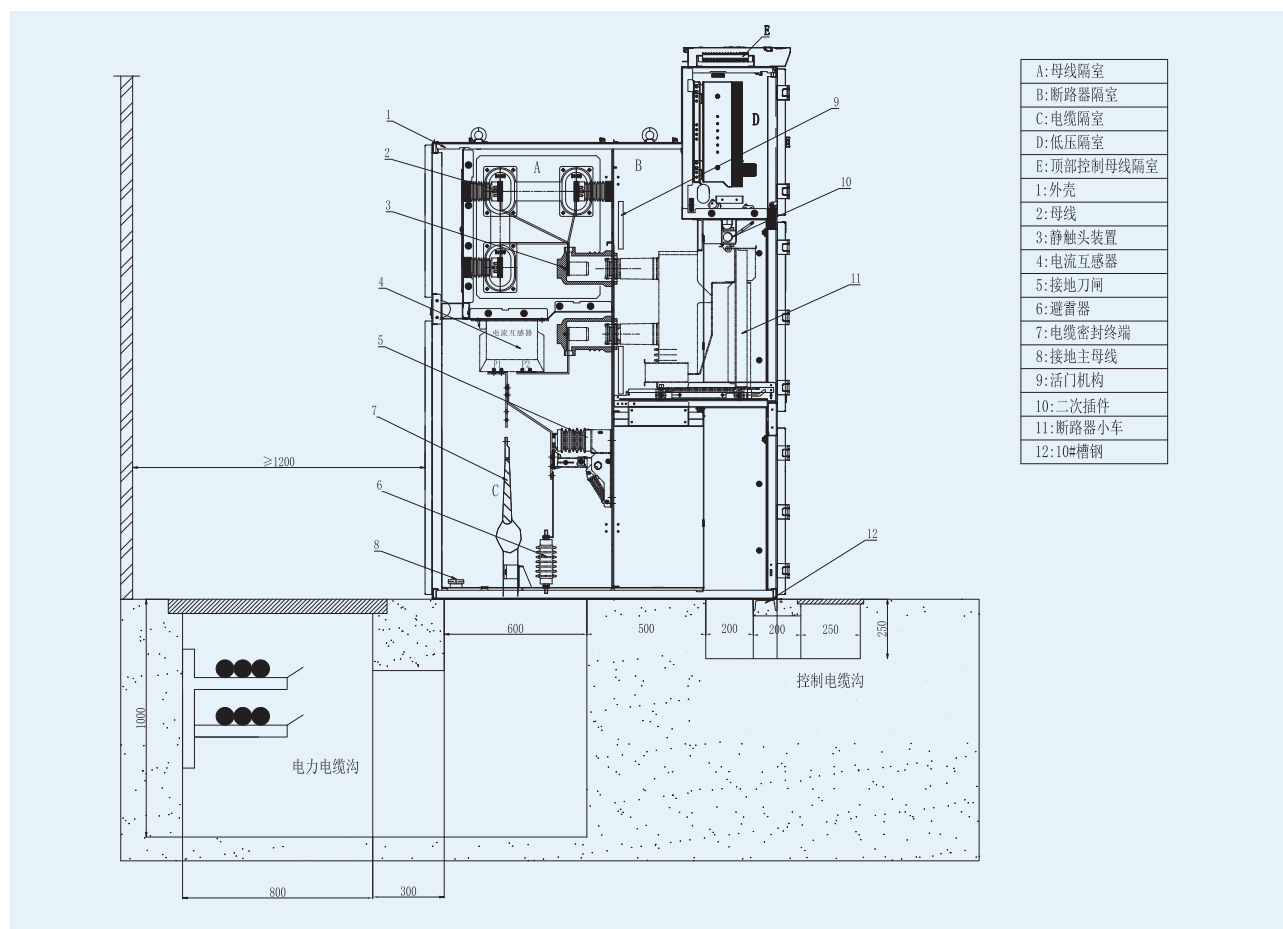
1. 主电路方案，编号或主电路组合排列图；
2. 辅助电路电气原理图及控制回路电压；
3. 开关设备平面布置图；
4. 超出正常使用条件时，由用户与本公司协商。

The following documents shall be provided when ordering:

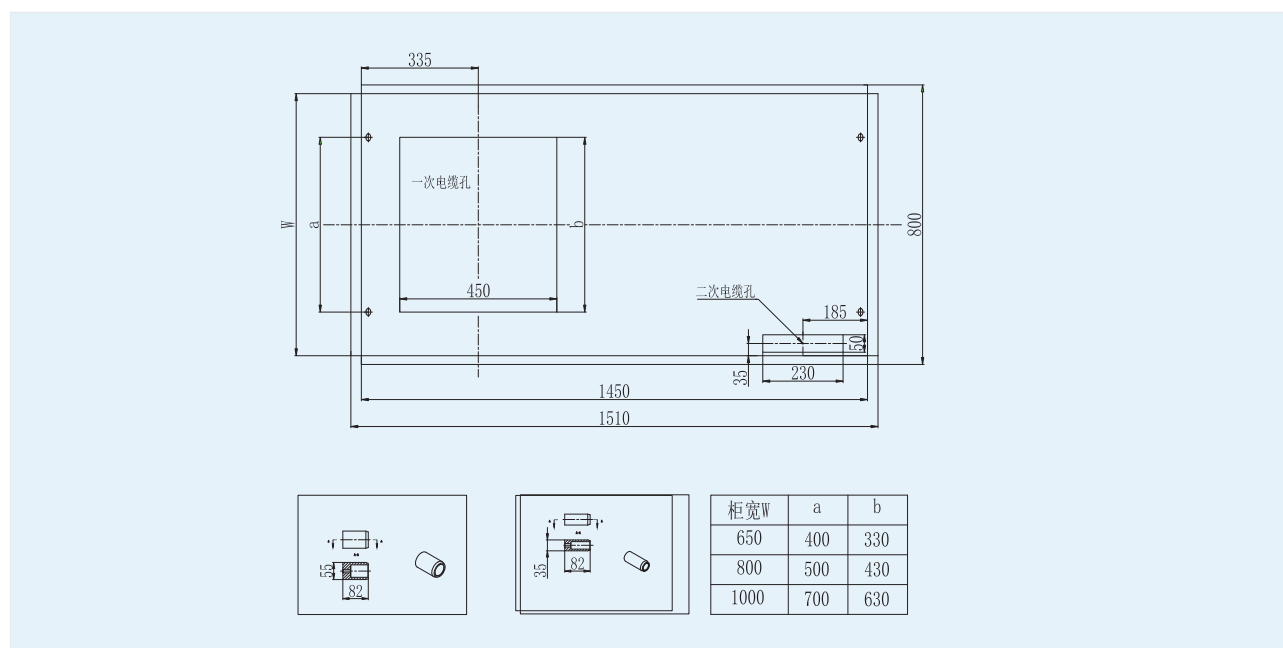
- 1.The main circuit scheme, number or main circuit arrangement diagram;
- 2.Electrical schematic diagram of auxiliary circuit and control loop voltage;
- 3.Layout plan for switchgear;
- 4.If it exceeds the normal use conditions,the user can negotiate with our company.

技术参数 《》 Technical Parameter

项目 Projent	单位 Unit	参 数 Parameter
额定电压 Rated voltage	KV	3、6、10
额定频率 Rated frequency	HZ	50
最高工作电压 Maximum working voltage	KV	3.6、7.2、12
额定电流 Rated current	A	630、1250、1600、2000、2500、3150
额定峰值耐受电流 Rated peak withstand current	KA	50、63、80、100
额定短时耐受电流(4s) Rated short time withstand current(4s)	KA	20、25、31.5、40
额定短路开断电流 Rated short circuit breaking current	KA	20、25、31.5、40
额定短路关合电流（峰值） Rated short ci rcuitcurrent(peak)	KA	50、63、80、100
额定绝缘水平 Rated insulation level	雷电冲击耐压（全波） Lightning impulse withstand voltage(full wave)	KV 75
	工频耐压（Imin） Power frequency withstand voltage(1min)	KV 42
柜体防护等级 protection level of cabinet		柜体防护等级 IP4X 各隔室之间及断路器室门打开时 IP2X The protection level of cabinet is IP4X, andthe protection level between each compartment and in the moment when the circuit – breaker room is opened is IP2X



交流金属铠装移开式开关设备KYN28-12内部结构及安装示意图



交流金属铠装移开式开关设备KYN28-12底部安装及开孔示意图

箱型固定式交流金属封闭开关设备XGN66-12

Box Fixed Type of AC Metal-enclosed Switchgear XGN66-12



■ 型号含义 >>> Model meaning

X G N 66 - 12

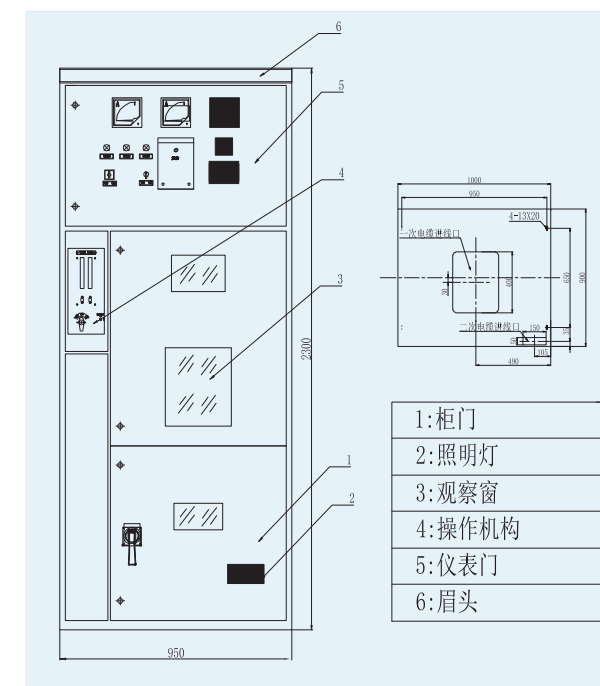
— 额定电压 (KV)
Rated voltage(KV)

设计序号
Design No

— 戸内
Indoor

— 固定式
Fixed

箱式开关设备
Box switching equipment



XGN66-12结构图



■ 产品概述 » » Product overview

XGN66-12系列开关柜适用于额定频率50HZ,额定电压3~12KV的三相交流电力系统中，作为接受和分配电能之用，属于新一代小型化城乡电网设备，具有小型化，结构合理，安全可靠，运行操作简单等特点，满足电力市场及城（农）网改造及箱式变电站的需求。

XGN66-12 series of switchgears apply to three-phase AC power system with rated frequency of 50HZ and rated voltage of 3~12KV, which is used for receiving and distributing electric energy. It belongs to a new generation of miniaturized urban and rural power grid equipment, with the characteristics of miniaturization, reasonable structure, safety and reliable, simple operation, etc., which can meet the demands of the power market and urban (agricultural) network transformation and box-type substation.

■ 产品特点 » » Product Features

1. 柜体 Cabinet
开关柜为箱式固定结构，具有较高的机械强度和优美的外观，整柜防护等级IP3X。
The switchgear is a box-type fixed structure with high mechanical strength and beautiful appearance. The protection degree of the whole cabinet is IP3X.
- 2.开关柜结构 Switchgear structure
开关柜为箱式固定结构，具有较高的机械强度和优美的外观，整柜防护等级IP3X。
The switchgear is a box-type fixed structure with high mechanical strength and beautiful appearance. The protection degree of the whole cabinet is IP3X.
- 2.1 开关柜的后上部为主母线室，室顶部设有压力释放装置；
The rear upper part of the switchgear is the main busbar room, where the top is provided with a pressure release device;
- 2.2 开关柜的前上部为低压室，小母线可以从室底部用电缆连接或在顶部布置铜管或铜棒；
The front upper part of the switchgear is the low-voltage room, where the small busbar can be connected by cables from the bottom or copper rods from the top;
- 2.3 开关柜的中部安装真空断路器（可选配ZN63,VS1,VD4等），下部安装接地开关和出线侧隔离开关，隔离开关与接地开关在柜前右侧操作，具有按程序操作的可靠的机械连锁装置，为操作人员与设备提供可靠的安全性保护；
The central part of the switchgear is equipped with a vacuum circuit breaker (optionally match with ZN63, VS1, VD4, etc.), where the lower part is installed with the grounding switch and the outlet isolating switch. The isolating switch and the grounding switch are operated on the right side of the cabinet, and have reliable mechanical interlocking device according to the procedures that provides reliable safety protection for operators and equipment;
- 2.4 开关柜的后部安装电流互感器，电压互感器，避雷器，一次电缆从下部出线；
The current transformer, voltage transformer, lightning arrester are all installed at the rear of the switchgear, and the primary cable is led out from the lower part;
- 2.5 柜底布置有接地母线，此母线能贯穿相邻各柜，与柜体良好接触，具有可靠的接地系统；
The bottom of the cabinet is equipped with the grounding busbar, which can penetrate through the adjacent cabinets and be in good contact with the cabinet. It has a reliable grounding system.
- 3.设有可靠的强制性机械闭锁装置，达到“五防”要求。
It has a reliable mandatory mechanical locking device to meet the requirements of “Five Preventions” .
- 4.柜体门上装有观察窗，可清楚观察到柜内元件的工作状态。进出线电缆低于柜底前部，方便用户连接。
The observation window is installed on the cabinet door, which can observe the working state of the components in the cabinet clearly. The inlet and outlet cable is lower than the cabinet front part for convenient connection with users.

■ 工作条件 » » Working conditions

- 1.环境温度：-25℃~+40℃
2.海拔高度：不高于1000m
3.相对湿度：日平均值≤95%，月平均值≤90%；
4.地震烈度：不超过8度
5.安装场所：空气应不受腐蚀性或可燃气体、水蒸气等明显污染，无剧烈振动的户内场所；
6.超出正常使用条件时，由用户与本公司协商。
- 1.Environment temperature: -25℃~+40℃;
2.Altitude: No more than 1000m;
3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;
4.Earthquake intensity: No more than 8 degrees
5.Installation site: The air shall be free from the pollution from the corrosive or flammable gas, vapour. And shall be the indoor site with no severe vibration;
6.If it exceeds the normal use conditions, the user can negotiate with our company.

■ 订货须知 » » Instruction of Order

- 订货时需提供以下资料：
1. 主电路方案，编号或主电路组合排列图；
2. 辅助电路电气原理图及控制回路电压；
3. 开关设备平面布置图；
4. 超出正常使用条件时，由用户与本公司协商。
- The following documents shall be provided when ordering:
1.The main circuit scheme, number or main circuit arrangement diagram;
2.Electrical schematic diagram of auxiliary circuit and control loop voltage;
3.Layout plan for switchgear;
4.If it exceeds the normal use conditions,the user can negotiate with our company.

■ 技术参数 » » Technical Parameter

项目 Projent		单位 Unit	参 数 Parameter
额定电压 Rated voltage		KV	3、6、10
额定频率 Rated frequency		HZ	50
最高工作电压 Maximum working voltage		KV	3.6、7.2、12
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、31.5
额定短路关合电流（峰值） Rated short ci rcuit current(peak)		KA	50、63、80
额定峰值耐受电流 Rated peak withstand current		KA	20、25、31.5
额定短时耐受电流(4s) Rated short time withstand current（4s）		KA	50、63、80
额定绝缘水平 Ratedinsulation level	雷电冲击耐压（全波） Lightning impulse withstand voltage (full wave)	KV	75、85
	工频耐压（Imin） Power frequency withstand voltage (Imin)	KV	42、48
柜体防护等级 protection level of cabinet			IP3X



交流金属封闭环网开关设备HXGN-12

AC Metal Enclosed Ring Network Switchgear HXGN-12



产品概述 >> Product overview

HXGN系列开关柜（简称“环网柜”）适用于额定频率50HZ,额定电压3~12KV，额定工作电流630A及以下系统中的成套配电装置，作为接受和分配电能之用，并对电路实行控制、保护及监测。广泛应用于工矿、住宅小区、高层建筑及学校等配电场所。

HXGN series of switchgears (referred to as "ring main unit") apply to the complete set of distribution equipment in the system with rated frequency 50HZ, rated voltage 3~12KV and rated working current 630A and below. It is used for receiving and distributing electric energy and implementing control, protection and monitoring on the circuit. It is widely used in industrial and mining enterprises, residential areas, tall buildings and schools and other distribution sites.

产品特点 >> Product Features

1.开关柜为金属封闭箱式结构，柜体全部采用组装结构，可任意组合安装，便于无限扩展延伸。柜体防护等级IP3X。

The switchgear is a metal-enclosed box structure. The cabinets are all assembled and can be installed in any combination for the convenience of infinite extension. The protection degree of the cabinet is IP3X.

2.柜体可配压气式负荷开关组合电器，也可配真空负荷开关组合电器，其安装方式灵活，可左、右侧装、正装、倒装。可手动和电动操作，并具有远动遥控功能。设有完善可靠的机械联动，连锁装置，完全达到“五防”功能。采用联动防护绝缘活门，遮挡带电触头，确保人身安全；

The cabinet can be equipped with a pneumatic load switch composite apparatus, or a vacuum load switch composite apparatus. The installation method is flexible, which can be installed on the left and right sides, in the front, and on the reverse, operated manually and electrically, and has a remote control function. With perfect and reliable mechanical linkage and interlocking devices, it fully achieves the “five- prevention” functions. The use of linkage protective insulation valve shields from the live contact to ensure personal safety;

3.柜体采用正面操作维护，柜体门上装有观察窗，可清楚观察到柜内元件的工作状态。

The frontal operation and maintenance has been adopted by the cabinet, where the cabinet door is equipped with an observation window to clearly observe the working status of the components in the cabinet.

工作条件 >> Working conditions

1.环境温度：-25℃~+40℃；

1.Environment temperature: -25℃~+40℃;

2.海拔高度：不高于1000m；

2.Altitude: no more than 1000m;

3.相对湿度：日平均值≤95%，月平均值≤90%；

3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

4.地震烈度：不超过8度；

4.Earthquake intensity: No more than 8 degrees

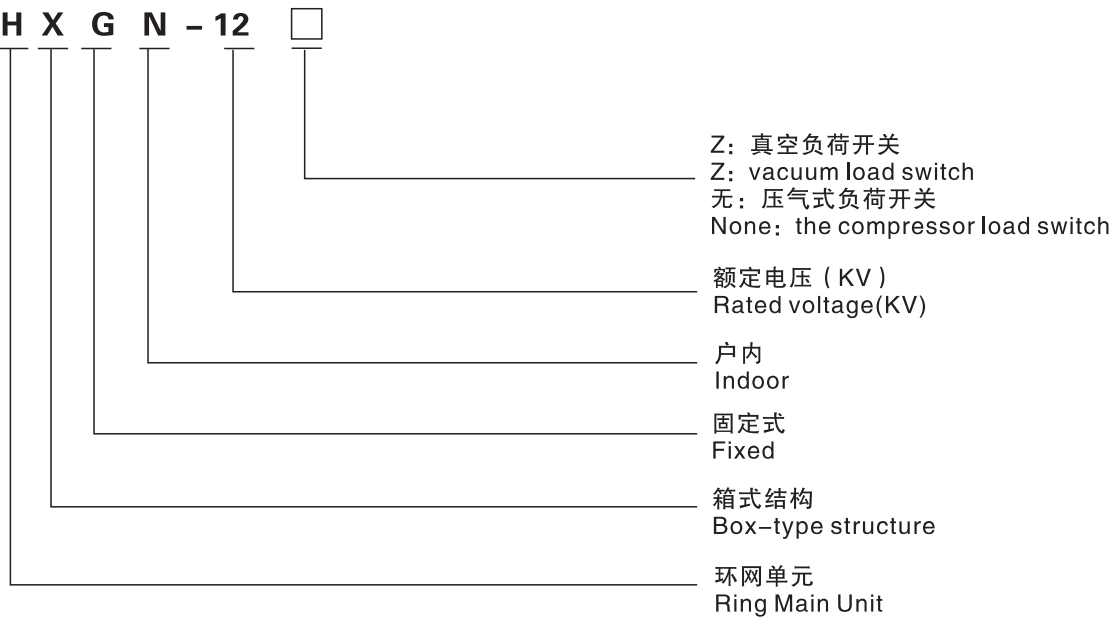
5.安装场所：空气应不受腐蚀性或可燃气体、水蒸气等明显污染，无剧烈振动的户内场所；

5.Installation site: The air shall be free from the pollution of the corrosive or flammable gas, vapour. And shall be the indoor site with no severe vibration;

6.超出正常使用条件时，由用户与本公司协商。

6.If it exceeds the normal use conditions, the user can negotiate with our company.

型号含义 >> Model meaning





订 货 须 知 《 》 Instruction of Order

订货时需 提供以下资料：

- 1.主电路方案，编号或主电路组合排列图；
- 2.辅助电路电气原理图及控制回路电压；
- 3.开关设备平面布置图；
- 4.超出正常使用条件时，由用户与本公司协商。

The following documents shall be provided when ordering:

- 1.The main circuit scheme, number or main circuit arrangement diagram;
- 2.Electrical schematic diagram of auxiliary circuit and control loop voltage;
- 3.Layout plan for switchgear;
- 4.If it exceeds the normal use conditions,the user can negotiate with our company.

技 术 参 数 《 》 Technical Parameter

项 目 Projent		单 位 Unit	参 数 Parameter
额定电压 Rated voltage		KV	3、6、10
额定频率 Rated frequency		HZ	50
最高工作电压 Maximum working voltage		KV	3.6、7.2、12
额定电流 Rated current		A	630
负 荷 开 关 Load switch	额定电流 Rated current	A	630
	额定电流下寿命 Electrical life at rated current	次	不小于100 Not less than 100
	开断空载变压器容量 Breaking load transformer capacity	KVA	1250
	额定热稳定电流（有效值） Rated thermal current	KA	20
	额定动稳定电流 Rated dunamic current	KA	50
	额定短路关合电流（峰值） Rated short ci rcuit current(peak)	KA	50
	熔断器额定电流 Fuse rated current	KA	100
	额定转移电流 Rated transfer current	KA	1500、2000
	额定短路开断电流 Rated short circuit breaking current	KA	31.5
额定绝缘水平 Rated insulation level	配用熔断器型号 Models equipped with fuses		S □ LAJ-12/XRNT□-10
	雷电冲击耐压（全波） Lightning impulse withstand voltage(full wave)	KV	75、85
	工频耐压 (Imin) Power frequency withstand voltage(1min)	KV	42、48
柜体防护等级 protection level of cabinet			IP3X

单 元 式 交 流 金 属 封 闭 开 关 设 备HXGN15-12(SF6)

Unit AC metal-enclosed ring network switching equipment HXGN15-12(SF6)



型 号 含 义 《 》 Model meaning

H X G N 15 - 12 □

- 柜内主开关为SF6开关
SF6 switch the main switch of the cabinet
- 额定电压（KV）
Rated voltage(KV)
- 设计序号
Design No
- 户内
Indoor
- 固定式
Fixed
- 箱式结构
Box-type structure
- 环网单元
Ring Main Unit



产品概述 » » Product overview

HXGN15-12(SF6)单元交流金属封闭环网开关设备（以下简称环网柜）是我们在引进国外先进技术并按照国内农网及城网改造之要求而自行设计、研制成功的新一代高压电器产品，适用于交流50HZ、12KV的电力网络中，作为电能的接受和分配之用。

HXGN15-12(SF6) type Unit AC metal-enclosed ring network switching equipment（hereinafter referred to as RMU）is our next-generation introduction of foreign advanced technology and in accordance with the requirements of domestic and rural power network reform of and to design,successfully developed high-voltage electfrical products.for AC 50HZ,12KV power network,as the acceptance and distribution of electric energy use.

产品特点 » » Product Features

1.环网柜的主开关、操作机构及元器件采用ABB公司原装件或采用进口部件国内组装生产的SFL-12/24型开关设备，也可根据用户需要配装国内知名品牌的SF6断路器或VD4-S型真空断路器。其操作方式分为手动、电动两种。

The main switch,operating mechanism of ring network cabinet and components by ABB original imported parts or the production of SFL-12/24 type switch equipment,can also according to user needs or for domestic well-known brand of SF6 circuit breaker VD4-S type vacuum circuit breaker. Its operation mode can be divided into dynamic and electric two kinds.

2.柜体经数控机床加工后铆接而成，防护等级达到IP30，并有可靠的机械联锁和防操作功能。

After CNC machining cabinet riveted,protection grade IP3X,and have reliable mechanical interlock and anti-misuse features.

3.本产品具有体积小、重量轻、外型美观、操作简便、长寿命、高参数、无污染、少维护等极具显著特点。各项技术性能指标按IEC62271-200:2003和GB3906标准。

This product has a small size,light weight,good looks,easy operation ,long life,high-parameter,non-polluting,less maintenance and other highly notable features.The technical performance indicators full IEC62271-200:2003 and GB3906 standards.

工作条件 » » Working conditions

- | | |
|---|---|
| 1.环境温度：-25℃~+40℃； | 1.Environment temperature: -25℃~+40℃; |
| 2.海拔高度：不高于1000m； | 2.Altitude: no more than 1000m; |
| 3.相对湿度：日平均值≤95%，月平均值≤90%； | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4.地震烈度：不超过8度； | 4.Earthquake intensity: No more than 8 degrees |
| 5.安装场所：空气应不受腐蚀性或可燃气体、水蒸气等明显污染，无剧烈振动的户内场所； | 5.Installation site: The air shall be free from the pollution of the corrosive or flammable gas, vapour. And shall be the indoor site with no severe vibration; |
| 6.超出正常使用条件时，由用户与本公司协商。 | 6.If it exceeds the normal use conditions, the user can negotiate with our company. |

技术参数 » » Technical Parameter

项目 Projent	单位 Unit	参 数 Parameter
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 Main busbar rated current/fuse maximum rated current	KA	630、125
主回路、接地回路额定短时耐受电流 The main circuit、grounding circuit rated short time withstand current	KA/S	20/3
主回路、接地回路额定峰值耐受电流 The main circuit、grounding circuit rated peak withstand current	KA	50
主回路、接地回路额定短路关合电流 The main circuit、grounding circuit ratedshort-circuit current	KA	50
负荷开关满容量开断数 Full capacity load switch breaking number	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
Imin工频耐压（峰值）相间、对地/隔离断口 1 min power frequency withstand voltage(peak)relative、on the ground/isolation 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、on the ground/isolation fracture	KV	75、85
二次回路Imin 工频耐压 Secondary circuit 1min power frequency withstand voltage	KV	2
柜体防护等级 protection level of cabinet	IP3X	



智能高频开关直流电源屏KCGZDW

Intelligent High Frequency Switch DC Power Supply Panel KCGZDW



产品概述 >> Product overview

直流屏是一种全新的数字化控制、保护、管理、测量的新型直流系统。直流屏监控主机部分高度集成化，采用单板结构，内含绝缘监察、电池巡检、接地选线、电池活化、硅链稳压、微机中央信号等功能。主机配置大液晶触摸屏，各种运行状态和参数均以汉字显示。整体设计方便简洁，人机界面友好，符合用户使用习惯。直流屏系统为远程检测和控制提供了强大的功能，并具有遥控、遥调、遥测、遥信功能和远程通讯接口。通过远程通讯接口可在远方获得直流电源系统的运行参数，还可通过该接口设定和修改运行状态及定值，满足电力自动化和电力系统无人值守变电站的要求；配有标准RS232/485串行接口和以太网接口，可方便纳入电站自动化系统。适用于电力、通信、交通、化工、冶金、军事、医疗、厂矿、建筑及消防等领域及用户终端，可作为高压开关、继电保护、自动装置的操作电源和控制电源。

DC power supply panel is a total new type of DC system for digital control, protection, management and measurement. The monitoring host of DC power supply panel is highly integrated, adopting a single-board structure, which includes functions of insulation monitoring, battery inspection, grounding line selection, battery activation, silicon chain voltage stabilizing, and microcomputer central signal. The host is equipped with a large LCD touch screen, displaying various operating states and parameters in Chinese characters. The overall design is convenient and concise, with friendly man-machine interface, and conforms to user habits. The DC power supply panel system provides powerful functions for remote detection and remote control, and has telecommand, teleadjusting, telemetering, teleindication, and remote communication interfaces. Operating parameters of DC power system can be obtained through remote communication interface in the distance, and the operating status and fixed value can also be set and modified through the interface to meet the power automation and power system requirements of unattended substation; equipped with standard RS232/485 serial interface and Ethernet interface which is easy to fit into the power station automation system. It is applicable to the fields and user terminals of power, communication, transportation, chemical, metallurgy, military, medical, factory and mining, construction and fire protection. It can be used as the operating power and control power for high-voltage switches, relay protection, and automatic devices.

产品特点 >> Product Features

系统配置是由监控模块、交直流检测模块、绝缘检测模块、电池巡检模块、开关量检测模块、降压模块、配电单元、蓄电池、柜体等组成，具有操作简单、智能管理、高效节能等特点。

The system configuration is composed of a monitoring module, an AC/DC detection module, an insulation detection module, a battery inspection module, a switch detection module, a step-down module, a power distribution element, a battery, a cabinet, etc., and has features of simple operation, intelligent management, high efficiency and energy saving.

- 1.智能双电源切换，两路交流电源输入，一路为工作电源，一路为备用电源；
Intelligent dual power supply switching, two-way AC power input, which one is for working power, and the other for standby supply;
- 2.输入电压范围宽，电网适应性强；
Wide range of input voltage and strong adaptability to the power grid;
- 3.采用PSM20监控，7寸液晶显示屏，中文菜单，界面友好丰富，触摸屏点触式操作；
Adopt PSM20 monitoring, 7-inch LCD screen, Chinese menu, friendly interface, and touch operation on the touch screen;
- 4.具有周全的系统设置、运行信息查询及各项告警等功能；
With comprehensive system settings, operation information query and various alarms functions, etc.;
- 5.智能化的蓄电池充放电管理，完善可靠的温度补偿功能；
Intelligent management on battery charge and discharge, perfect and reliable temperature compensation function;
- 6.可扩展蓄电池检测两组240节、绝缘检测60路、实现80路支路开关跳闸故障检测；
Extend battery detection to two groups in total 240 cells, insulation detection to 60 lines, and branch switch trip failure detection to 80 lines;
- 7.系统采用多级密码权限管理，限制未授权人员的操作，确保系统安全可靠的运行；
The system adopts multilevel cryptosystem authority management to limit the unauthorized personnel operations, to ensure the safe and reliable operation of the system;
- 8.模块化设计，N+1冗余，满足容量要求；
Modular design, N+1 redundancy, and meet capacity requirements;
- 9.内置RS232、RS485两种通讯接口，可通过后台监控和远程监控对系统实施“遥测、遥控、遥信、遥调”四遥功能，实现无人值守；
Built-in two communication interfaces of RS232 and RS485, to implement the four remote functions of "telemetry, telecommand, teleindication, teleadjusting" through the background monitoring and remote monitoring, to achieve unattended operation;
10. 支持CDT、MODBUS两种通讯规约选择。
Support two communication protocol options of CDT, MODBUS.

系统配置及工作原理 >> System Configuration and Working Principle

1. 系统配置 System configuration
直流电源系统主要由监控模块、整流模块、绝缘检测模块、电池巡检模块、交直流检测模块、开关量检测模块、降压模块、配电单元、蓄电池和柜体组成，根据需要还可增配逆变电源模块和直流变换模块，根据配置和接线方式不同，可实现多种方式的馈电输出；



The DC power supply system is composed of a monitoring module, a rectifier module, an insulation detection module, a battery inspection module, an AC/DC detection module, a switch detection module, a step-down module, a power distribution element, a battery, and a cabinet, etc. An inverter power module and a DC converter module can be added as needed. Multiple kinds of feeding output can be realized based on different configurations and wiring modes;

2.工作原理 Working principle

2.1当系统交流输入正常时，两路市电经双电源切换装置输入一路交流，给整流模块供电。整流模块将输入的AC转换为DC,一方面给合闸母线负载供电，同时给蓄电池充电，合闸母线通过降压模块给控制母线负载供电。

When the system AC input is normal, the two line power input one AC line through the dual power supply switching device, to supply power to the rectifier module. The rectifier module converts the input AC into DC, to supply power to the closing busbar load, and simultaneously charges the battery. The closing busbar supplies power to the control busbar load through step-down module.

2.2当系统交流输入异常或停电时，整流模块停止工作，由蓄电池给负载供电。监控模块监测电池电压、放电时间。当电池放电到设置的欠压值时，监测模块告警。交流输入恢复正常后，整流模块对负载供电并给电池充电。

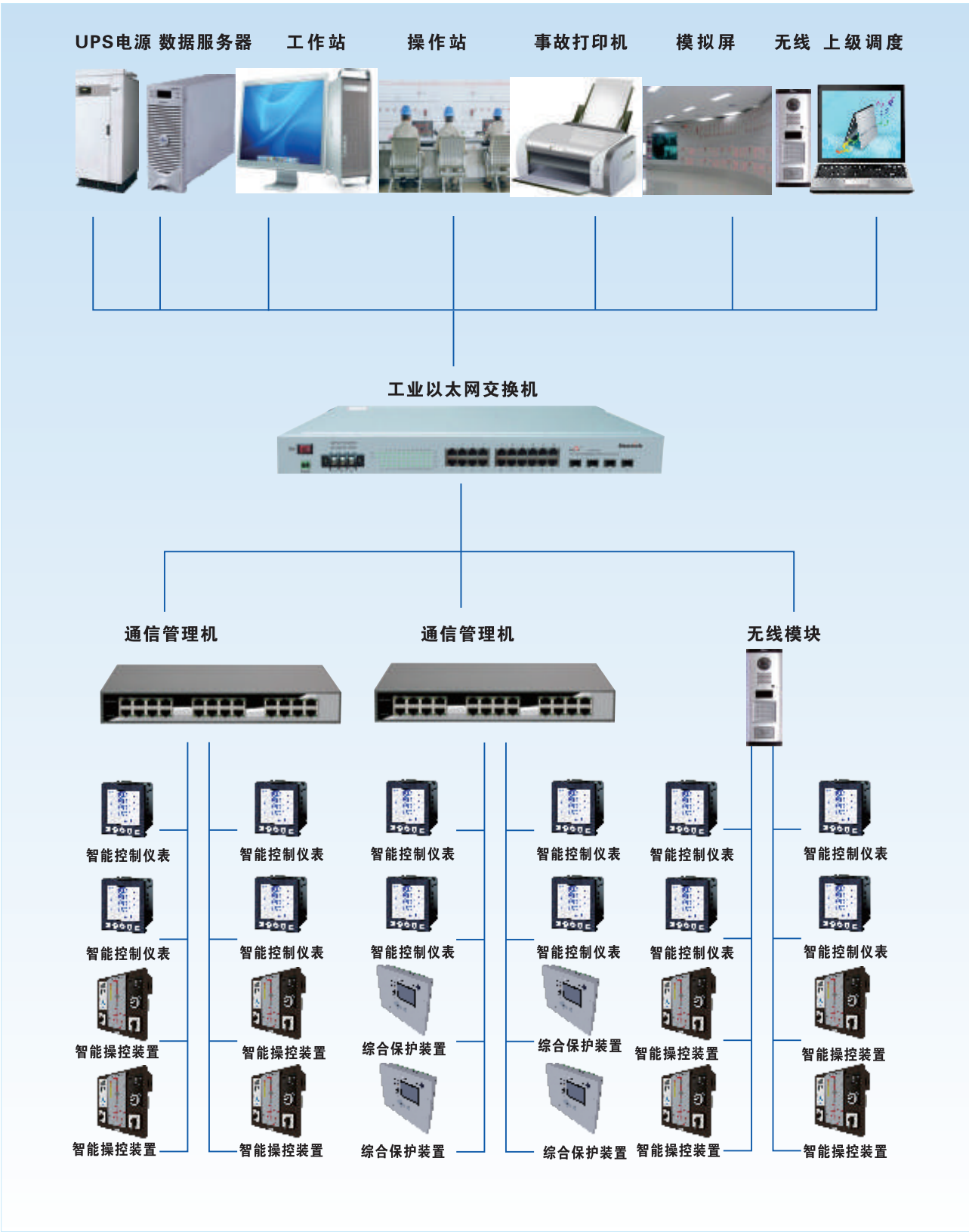
When the system AC input is abnormal or in interruption, the rectifier module stops working, and the battery supplies power to the load. The monitoring module monitors the voltage and discharge time of the battery. When the battery discharges to the set under-voltage value, the monitoring module will alarm. After the AC input returns to normal, the rectifier module supplies power to the load and recharges the battery.

■ 技术参数 >> Technical Parameter

项目 Project	单位 Unit	参 数 Parameter
额定输入电压 Rated input voltage	V	AC380 ±15% (AC220 ±15%)
额定输出电压 Rated output voltage	V	DC220 DC110
额定输出电流 Rated output current	A	10、20、30、40、50、60、70、80、90…500A
蓄电池容量 Battery capacity	AH	38、65、100、150、200、300、500…3000AH
电网频率 Power grid frequency	HZ	50±10%
稳压精度 Pressure control accuracy	%	≤±0.5%
稳流精度 Stabilizing precision	%	≤±0.5%
功率因数 Power factor	%	≥0.95% (满负荷输出) ≥0.95% (Fullload output)
绝缘强度 Insulation strength	%	>10MΩ、2KVAC一分钟无闪络、击穿 One minute without flashover and breakdown
工作方式 Working methods	连续长期运行 Continuous long – term operation	
冷却方式 Cooling mode	智能温控型风冷 Intelligent temperature control type air cooling	
可闻噪音 Audible noise	≤50dB	

智能电力监控系统

Intelligent Power Monitoring System





产品概述 《》Product overview

智能电力监控系统利用计算机、计量保护装置和总线技术，对中、低压配电系统的实时数据、开关状态及远程控制进行了集中管理。该电力监控系统可以为企业提供“监控一体化”的整体解决方案，主要包括实时历史数据库、工业自动化组态软件、电力自动化软件、“软”控制策略软件、通信网关服务器、OPC产品、Web门户工具等，可以广泛地应用于企业信息化、DCS系统、PLC系统、SCADA系统。

The intelligent power monitoring system takes advantage of the computer, metering protection device and bus technology to centrally manage the real-time data, switch status and remote control of the medium and low voltage power distribution systems. The power monitoring system can provide enterprises with a "monitoring integration" overall solution, including the real-time historical database, industrial automation configuration software, power automation software, "soft" control strategy software, communication gateway server, OPC products, web portal tools, etc., which can be widely used in the enterprise information, DCS system, PLC system, and SCADA system.

系统配置及功能 《》System Configuration and Function

1. 系统配置 System configuration

智能电力监控系统是基于10kV及以下变配电系统的监测与管理，该系统由管理层（站控层）、通信层（中间层）、间隔层（现场监控层）三部分组成；

The intelligent power monitoring system is based on the monitoring and management of 10kV and below variable power distribution systems. The system consists of three parts: management layer (station control layer), communication layer (middle layer), and bay level (site monitoring layer).

2. 功能特点 Function Features

2.1 友好的人机交互界面（HMI）Friendly human machine interface (HMI)

标准的变配电系统具有CAD一次单线图显示中、低压配电网络的接线情况；庞大的系统具有多画面切换及画面导航的功能；分散的配电系统具有空间、地理、平面的系统主画面。主画面可直观显示各回路的运行状态，并具有回路带电、非带电及故障着色的功能。主要电量直接显示于人机交互界面并实时刷新。

The standard power distribution system has CAD one-line diagram to display the wiring of medium and low voltage distribution networks; the huge system has the functions of multi-screen switching and screen navigation; the distributed power distribution system has the main screen of space, geography and plane. The main screen can visually display the operating status of each loop and has the functions of loop live, non-charged and fault coloring. The main power is directly displayed on the human-machine interface and refreshed in real time.

2.2 用户管理 User management

智能电力监控系统软件可对不同级别的用户赋予不同权限，从而保证系统在运行过程中的安全性和可靠性。如对某重要回路的合、分闸操作，需操作员级用户输入操作口令外，还需工程师级用户输入确认口令后方可完成该操作。

The intelligent power monitoring system software can assign different permissions to different levels of users, thus ensuring the security and reliability of the system during operation. For the closing and opening operations of an important circuit, the operator-level user needs to input the operation password, and the engineer-level user needs to input the confirmation password before completing the operation.

2.3 数据采集处理 Data collection and processing

智能电力监控系统可实时和定时采集现场设备的各电量及开关量状态（包括三相电压、电流、功率、功率因数、频率、电能、温度、开关位置、设备运行状态等），将采集到的数据或直接显示或通过统计计算生成新的直观的数据信息再显示（总系统功率、负荷最大值、功率因数上下限等），并对重要的信息量进行数据库存储。

The intelligent power monitoring system can collect the power and switch status (including three-phase voltage, current, power, power factor, frequency, power, temperature, switch position, equipment operating status, etc.) of the field device in real time and timing, and the collected data will be collected. Data can be directly displayed or statistically calculated to generate new and intuitive data information for display (total system power, load maximum, power factor upper and lower limits, etc.), and It can store the important amount of information in the database.

2.4 趋势曲线分析 Trend curve analysis

智能电力监控系统提供了实时曲线和历史趋势两种曲线分析界面，通过调用相关回路实时曲线界面分析该回路当前的负荷运行状况。如通过调用某配出回路的实时曲线可分析该回路的电气设备所引起的信号波动情况。系统的历史趋势即系统对所有已存储数据均可查看其历史趋势，方便工程人员对监测的配电网络进行质量分析。

The intelligent power monitoring system provides two curve analysis interfaces of real-time curve and historical trend, and analyzes the current load operation status of the loop by calling the relevant loop real-time curve interface. For example, by calling a real-time curve of a distribution loop, the signal fluctuation caused by the electrical equipment of the loop can be analyzed. The historical trend of the system is that the system can view the historical trend of all stored data, which is convenient for engineers to analyze the quality of the monitored distribution network.

2.5 报表管理 Report management

智能电力监控系统具有标准的电能报表格式并可根据用户需求设计符合其需要的报表格式，系统可自动统计，可自动生成各种类型的实时运行报表、历史报表、事件故障及告警记录报表、操作记录报表等，可以查询和打印系统记录的所有数据值，自动生成电能的日、月、季、年度报表，根据复费率的时段及费率的设定值生成电能的费率报表，查询打印的起点、间隔等参数可自行设置；系统设计还可根据用户需求量身定制满足不同要求的报表输出功能。

The intelligent power monitoring system has a standard power report format and can design a report format that meets its needs according to user requirements. The system can automatically generate statistics, and can automatically generate various types of real-time running reports, historical reports, event faults, and alarm record reports and operation record reports, etc. It can also query and print all the data values recorded by the system, automatically generate daily, monthly, seasonal, and annual reports of electric energy, generate rate reports of electric energy according to the set time of the multi-rate rate and the set value of the rate, query and print The starting point, interval and other parameters can be set by themselves; the system design can also customize the report output function to meet different requirements according to user requirements.

2.6 事件记录和故障报警 Event record and fault alarm

智能电力监控系统对所有用户操作、开关变位、参量越限及其它用户实际需求的事件均具有详细的记录功能，包括事件发生的时间位置，当前值班人员事件是否确认等信息，对开关变位、参量越限等信息还具有声音报警功能，同时自动对运行设备发送控制指令或提示值班人员迅速排除故障。

The intelligent power monitoring system has detailed recording functions for all user operations, switch displacements, parametric limits and other users' actual needs, including the time position of the event, whether the current duty personnel event is confirmed, etc. The information such as the parameter limit and the limit also has an audible alarm function, and at the same time automatically sends a control command to the running device or prompts the on-duty personnel to quickly eliminate the fault.

2.7 “五遥”功能 "Five remote" function

智能电力监控系统不仅能实现常规的“遥信”、“遥控”、“遥测”、“遥调”功能，还可以实现“遥设”功能。

The intelligent power monitoring system can not only realize the conventional "teleindication", "telecommand", "telemetry", "teleadjusting" functions, but also realize the "remote setting" function.

2.7.1 遥信 Teleindication

实时对开关运行状态、保护工作等开关量进行监视。计算机实时显示和自动报警。

Real-time monitoring of switch operation status, protection work and other switching quantities. Computer real-time display and automatic alarm.

2.7.2 遥控 Telecommand

通过计算机屏幕选择相应的站号、开关号、合/分闸等信息，并在屏幕上将选择的开关状态反馈出来，确认后执行，实时记录操作时间、类型、合开关号等。

Through the computer screen, it can select the corresponding station number, switch number, close/open gate and other information, and feedback the selected switch status on the screen, confirm and execute, and record the operation time, type, and switch number in real time.

2.7.3 遥测 Telemetry

通过计算机实时对系统电压、电流、有功功率、无功功率、功率因数、超限报警、频率进行不断地采集、分析、处理、记录、显示曲线、棒图，自动生成报表。

Through the computer real-time system voltage, current, active power, reactive power, power factor, over-limit alarm, frequency, it can continuously collect, analyze, process, record, display curves, bar graphs, automatically generate reports.

2.7.4 遥调 Teleadjusting

接受并执行遥调命令，对远程的控制量设备进行远程调试，如调节发电机输出功率，有载变压器的调压升/降。

Accept and execute the remote adjustment command to remotely commission the remote control device, such as adjusting the generator output power and regulating the rise/fall of the loaded transformer.

2.7.5 遥设 Remote setting

用于远方修改分散继电保护装置的定值、控制字；以及调整各种仪表的工作状态。

It is used to modify the fixed value and control word of the distributed relay protection device in the distance; and adjust the working status of various instruments.



低压抽出式开关柜MNS

Low-voltage Drawer-type Switchgear MNS



型号含义 《》 Model meaning

M N S - □ □

- 辅助电路方案代号
Auxiliary circuit program code
- 主电路方案代号
Main circuit scheme number
- 系统
System
- 新型
New type
- 模块化、模数化
Modularization, modularization

产品概述 《》 Product overview

MNS型低压抽出式开关柜是目前国内较先进的低压抽出式开关设备。该产品均由标准化的或系列的模块组成，并且抽屉具有可靠的机械联锁装置，使用户在使用时更安全、更可靠。它适用于交流50Hz，额定工作电压400V（690V），额定电流5000A及以下三相五线制的电力供电系统，可用于发电厂、变电所、工矿企业、大楼宾馆、机场、码头以及广播电视等通信中心、市政建设等各种低压配电系统，来作为发电、输配电、电能转换及电能消耗设备的控制，并通过电容补偿柜对其主母线进行无功补偿。

MNS is the most advanced low-voltage draw-type switchgear in China. The products are composed of standardized or serial modules, and the drawers have reliable mechanical interlock devices that make it safer and more reliable when using them. It is suitable for three-phase five-wire power supply system with AC 50Hz, rated working voltage 400V (690V) and rated current 5000A and below, which can be used in communication center, municipal construction and other low-voltage power distribution systems, such as power plants, substations, industrial and mining enterprises, buildings, hotels, airports, wharves, radio and television and so on, to control the equipment of power generation, transmission and distribution, power conversion and power consumption, with reactive power compensation for its main bus-bar through the capacitor compensation cabinet.

产品特点 《》 Product Features

为适应电力工业发展的需求，参考国外MNS系列低压开关柜设计并加以改进开发的高级型低压开关柜。各模块采用模块化设计，单元组合灵活方便，零部件通用性强，适用性好，技术性能高，压缩场地，标准化程度高，装配方便。

In order to meet the needs of the development of the power industry, it refers to the design of foreign MNS series low-voltage switchgear and improves the development of advanced low-voltage switchgear. Each module adopts modular design, which makes the unit combination flexible and convenient, with strong versatility, high applicability, high technical performance, compression area, high standardization and convenient assembly.

1.MNS型低压开关柜框架为组合式结构，基本骨架由C型钢材组装而成。柜架的全部结构件经过镀锌处理，通过自攻锁螺钉或8.8级六角螺栓固定连接成基本柜架，加上对应于方案变化的门、隔板、安装支架以及母线功能单元等部件组装成完整的开关柜。开关柜内部尺寸、零部件尺寸、隔室尺寸均按照模数化变化。

The frame of MNS low-voltage switchgear is a combined structure, and the basic framework is assembled by C-type steel. All the structural parts of the frame are galvanized, and are firmly connected into the basic frame by self-tapping screws or 8.8-level hexagon bolts. In addition, the components, corresponding to the change of the scheme, such as doors, partitions, mounting brackets, busbar functional units and so on, are assembled into complete switchgear cabinets. The size of the internal switchgear cabinet, components and compartments vary according to the modulus.

2.MNS型组合式低压开关柜的每一个柜体分隔为三个室，即水平母线室（在柜后部），抽屉小室（在柜前部），电缆室（在柜下部或柜前右边）。室与室之间用钢板或高强度阻燃塑料功能板相互隔开，上下层抽屉之彰有带能风孔的金属板隔离，以有效防止开关元件因故障引起的飞弧或母线与其它线路短路造成的事故。

Each cabinet of the MNS combined low-voltage switchgear is divided into three compartments, namely the horizontal busbar compartment (at the rear of the cabinet), the drawer compartment (at the front of the cabinet), and the cable compartment (at the bottom of the cabinet or on the right side of the cabinet). The rooms are separated from each other by steel plate or high-strength flame-retardant plastic functional plates, and the upper and lower drawers are separated by metal plates with air holes, so as to effectively prevent the flashover of switching elements caused by faults, or accidents caused by short circuit between busbar and other lines.

3.MNS型低压开关柜的结构设计可满足各种进出线方案要求：上进上出、上进下出、下进上出、下进下出。

The structure design of MNS low-voltage switchgear can meet the requirements of various incoming and outgoing line schemes: upper in and upper out, upper in and lower out, lower in and upper out, and lower in and lower out.

4. 设计紧凑，以较小的空间容纳较多的功能单元。

Compact design: accommodates more functional units in a smaller space.

5. 结构件通用性强、组装灵活、以E=25mm为模数，结构及抽出式单元可以任意组合，以满足系统设计的要求。

The structural parts are versatile and are flexible to assemble. E=25mm is used as the modulus. The structure and the withdrawable unit can be randomly combined to meet the needs of system design.

6. 母线用高强度阻燃型、高绝缘强度的塑料功能板保护，具有抗故障电弧性能，使运行维修安全可靠。

The busbar is protected by high-strength flame-retardant and high-insulation-strength plastic function board, which has the function of anti-fault arc, to make operation and maintenance more secure and reliable.

7. 各种大小抽屉的机械联锁机构符号标准规定，有连接、试验、分离三个明显的位置、安全可靠。

The symbol of mechanical interlocking device for various sizes drawers stipulates that there are three obvious positions of connection, test and separation, which are safe and reliable.

8. 采用标准模块设计：分别可组成保护、操作、转换、控制、调节、测定、指示等标准单元，可以根据要求任意组装。

Standard module design: it can form standard units, such as protection, operation, conversion, control, adjustment, measurement, indication and so on, and can be randomly assembled according to requirements.



9. 采用高强度阻燃型工程塑料，有效加强了防护安全性能。
High-strength flame-retardant engineering plastics are adopted to effectively strengthen the protection and safety performance.
10. 通用化、标准化程度高，装配方便。具有可靠的质量保证。
It has high degree of generalization and standardization, convenient assembly and reliable quality assurance.
11. 柜体可按工作环境的不同要求选用相应的防护等级。
The cabinet can be selected with corresponding protection level according to different requirements of the working environment.

■ 工作条件

»» Working conditions

1. 环境温度：-5℃~+40℃ ；
2. 海拔高度：不高于2000m；
3. 相对湿度：日平均值≤95%，月平均值≤90%；
4. 地震烈度：不超过8度；
- 1.Ambient temperature: -5℃~+40℃；
2.Altitude: no more than 2000m；
3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%；
4.Earthquake intensity: no more than 8 degrees；
5.Installation place: indoor places without corrosion, violent vibration and impact；
6.If the normal use conditions are exceeded, the user shall negotiate with the company.
5. 安装场所：无腐蚀，无剧烈震动和冲击的户内场所；
6. 超出正常使用条件时，由用户与本公司协商。

■ 技术参数

»» Technical Parameter

项目 Project		单位 Unit	参 数 Parameter
额定电压 Rated voltage		V	AC400 AC 690 DC750
额定频率 Rated frequency		HZ	50
额定绝缘电压 Rated insulation voltage		V	AC1000 DC1500
额定冲击耐电压 Rated impact voltage resistance		KV	8
主母线 Main bus	额定电流Rated current	A	至 5000 Up to 5000
	额定峰值耐受电流(0.1s) Rated peak withstand current (0.1s)	KA	105、176、220
	额定短时耐受电流(1s) Rated short time withstand current(1s)	KA	50、80、100
接地系统 Grounding system		TT、IT、TN-S、TN-C-S	
柜体防护等级 protection level of cabinet		IP30、IP40、IP54	

低压抽出式开关柜GCS

Low-voltage Drawer-type Switchgear GCS



■ 型号含义

»» Model meaning



■ 产品概述

»» Product overview

GCS型低压抽出式开关柜是一种融合了其它低压产品的优点而开发的高级型产品。适用于三相交流频率50Hz，额定工作电压为400V（690V），额定工作电流至4000A及以下的发、供电力系统中作为动力、配电、电动机控制、电容补偿及照明等之用。广泛应用于石油、化工、冶金、纺织、高层建筑等场所，也可用在大型发电厂、石化系统等自动化程度高，要求与计算机接口的场所。

The GCS is an advanced product that is developed with the combination of other low-voltage product advantages. It applies to power, power distribution, motor control, capacitor compensation and lighting in the power system of power generation and supply with 50Hz of the three-phase AC frequency, 400V (690V) of the rated working voltage, and 4000A and below of the rated working current. It is widely used in petroleum, chemical, metallurgy, textile, tall buildings and other places, and can also be used in large power plants, petrochemical systems and other places with high degree of automation, requiring interfaces with computers.



产品特点 » » Product Features

GCS低压抽出式开关柜具有较高技术性能指标。根据安全、经济、合理、可靠的原则设计的新型低压抽出式开关柜，还具有分断、接通能力高、动热稳定性好、电气方案灵活、组合方便、系列性实用性强、结构新颖、防护等级高等特点。

GCS has relative high technical performance indicators. The new low-voltage drawer-type switchgear which is designed on the principle of safety, economy, reasonableness and reliability, also has the characteristics of high breaking and connection capacity, fine dynamic thermal stability, flexible electrical scheme, convenient combination, strong practicability in series, novel structure and high protection degree, etc.

1.开关柜的各功能室相互隔离，其隔室分为功能单元室、母线室和电缆室。各室的作用相对独立。

The functional rooms of the switchgear are isolated from each other, which are divided into functional unit rooms, busbar rooms and cable rooms. Each compartment play a relative independent role.

2.水平母线采用柜后平置式排列方式，以增强母线抗电动力的能力，是使主电路具备高短路强度能力的基本措施。

The horizontal busbar adopts the horizontal arrangement in the back of the cabinet to enhance the busbar's ability to resist electrodynamic force, which is the basic measure to make the main circuit have high short-circuit strength.

3.电缆隔室的设计使电缆上、下进出均十分方便。

The cable compartment shall be designed to make it easy to access the cable up and down.

4.抽屉高度的模数为160mm。抽屉改变仅在高度尺寸上变化，其宽度、深度尺寸不变。相同功能单元的抽屉具有良好的互换性。单元回路额定电流400A及以下。

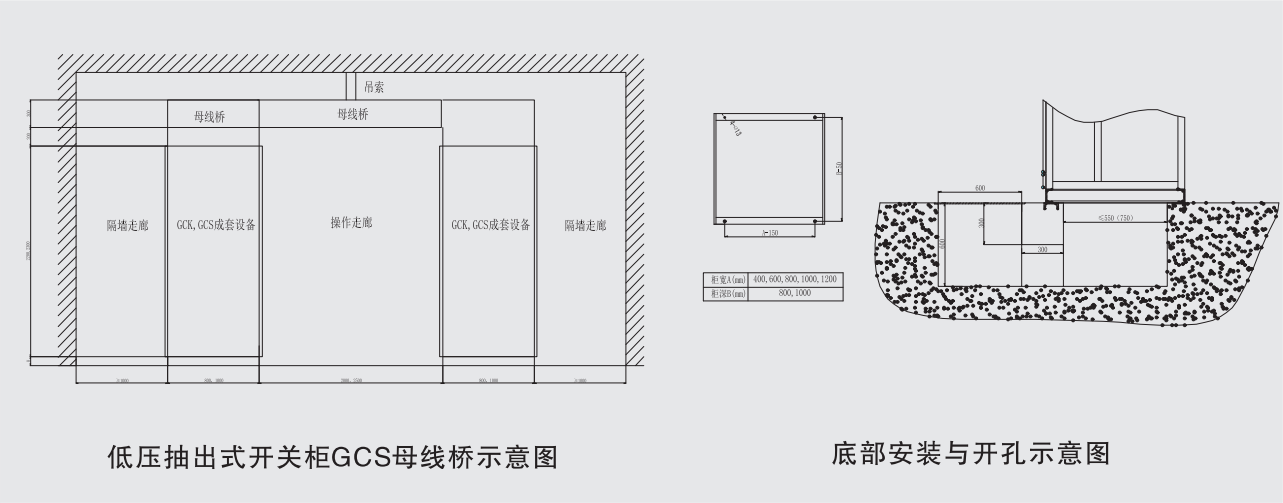
The drawer height is 160mm. The drawer varies only in height dimension, with its width and depth dimensions unchanged. Drawers of the same functional unit have good interchangeability. The unit circuit is rated at 400A or below.

5.抽屉面板具有分、合、试验、抽出等位置的明显标志。抽屉单元设有机械联锁装置。以抽屉单元为主体，同时具有抽出式和固定式，可以混合组合，任意使用。

The drawer panel has obvious signs identifying the separating, enclosing, testing, withdrawing positions and so on. The drawer unit is equipped with a mechanical interlock device. The drawer unit is regarded as the main body, and divided into draw-out type and fixed type at the same time, which can be mixed and used at will.

6.柜体的防护等级为IP30、IP40，还可以按用户需要选用。

The protection degree of the cabinet is IP30, IP40, and can also be selected as users need.



工作条件 » » Working conditions

- 1.环境温度：-5℃~+40℃；
- 2.海拔高度：不高于2000m；
- 3.相对湿度：日平均值≤95%，月平均值≤90%；
- 4.地震烈度：不超过8度；
- 5.安装场所：无腐蚀，无剧烈震动和冲击的户内场所；
- 6.超出正常使用条件时，由用户与本公司协商。

- 1.Environment temperature: -5℃~+40℃;
- 2.Altitude: no more than 2000m;
- 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;
- 4.Earthquake intensity: no more than 8 degrees
- 5.Installation site: indoor place without corrosion, violent vibration and impact;
- 6.If it exceeds the normal use conditions, the user can negotiate with our company.

订货须知 » » Instruction of Order

订货时需提供以下资料：

- 1.主电路方案，编号或主电路组合排列图；
- 2.辅助电路电气原理图；
- 3.开关设备平面布置图；
- 4.主电路系统组合系统图
- 5.其它与产品正常使用条件不符的特殊要求。

The following documents shall be provided when ordering:

- 1.The main circuit scheme, number or main circuit arrangement diagram;
- 2.Electrical schematic diagram of auxiliary circuit;
- 3.Layout plan for switchgear;
- 4.Composite system diagram of main circuit system
- 5.Any special requirements that doesn't conform to the normal use conditions.

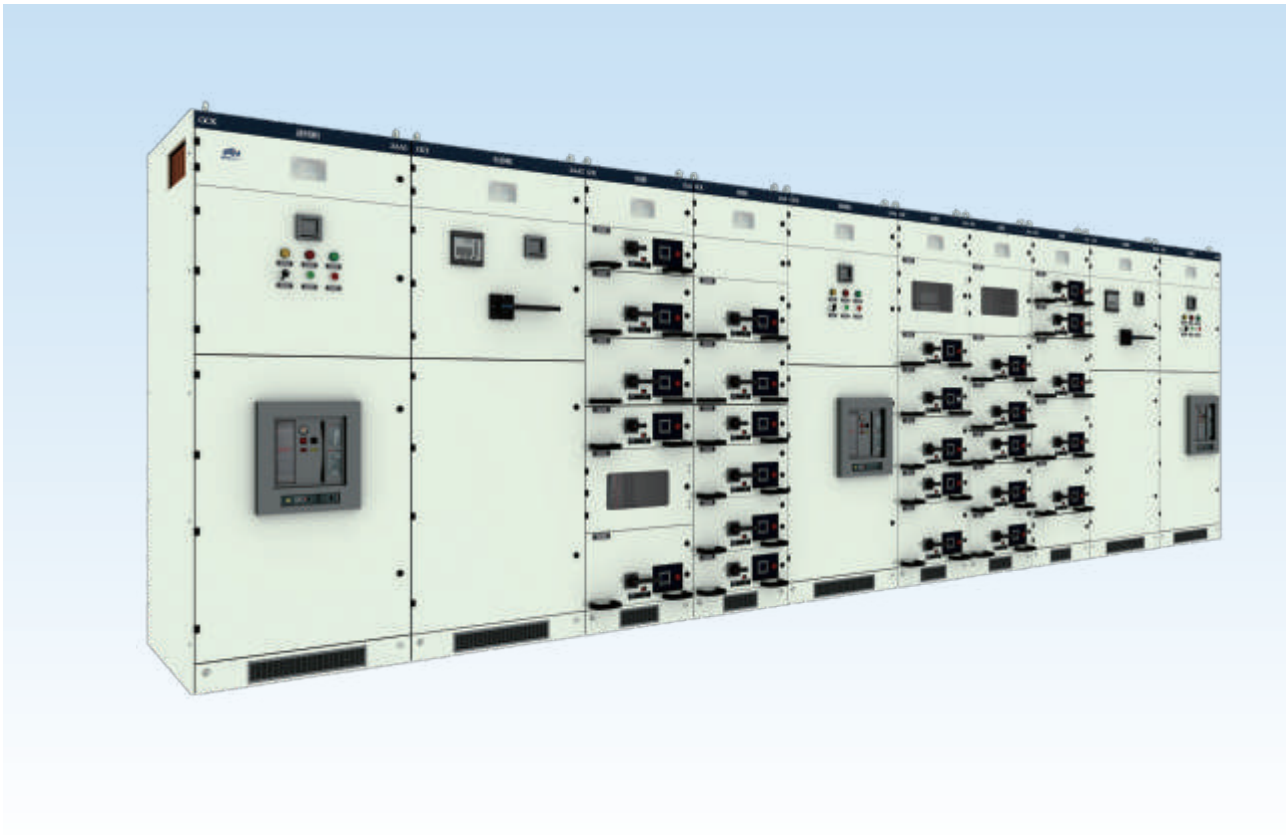
技术参数 » » Technical Parameter

项目 Projent		单位 Unit	参 数 Parameter
主电路额定电压 Rated voltage of main circuit		V	AC400、 690
辅助电路额定电压 Rated Voltage of Auxiliary Circuit		V	AC220、 380 DC110、 220
额定频率 Rated frequency		HZ	50
额定绝缘电压 Rated insulation voltage		V	1000
额定电流 Rated current	水平母线 Horizontal bus bar	A	≤4000
	垂直母线 Vertical bus bar	A	600~1500
额定峰值耐受电流(0.1s) Rated peak withstand current(0.1s)		KA	105、 176
额定短时耐受电流(1s) Rated short time withstand current (1s)		KA	50、 80
工频耐压 (Imin) Power frequency withstand voltage(1min)	主电路 Main circuit	V	2500
	辅助电路 Auxiliary circuit	V	1760
母线 Bus	三相四线 Three phase four wire	A、 B、 C、 PEN	
	三相五线 Three phase five wire	A、 B、 C、 PE、 N	
柜体防护等级 protection level of cabinet		IP30、 IP40	

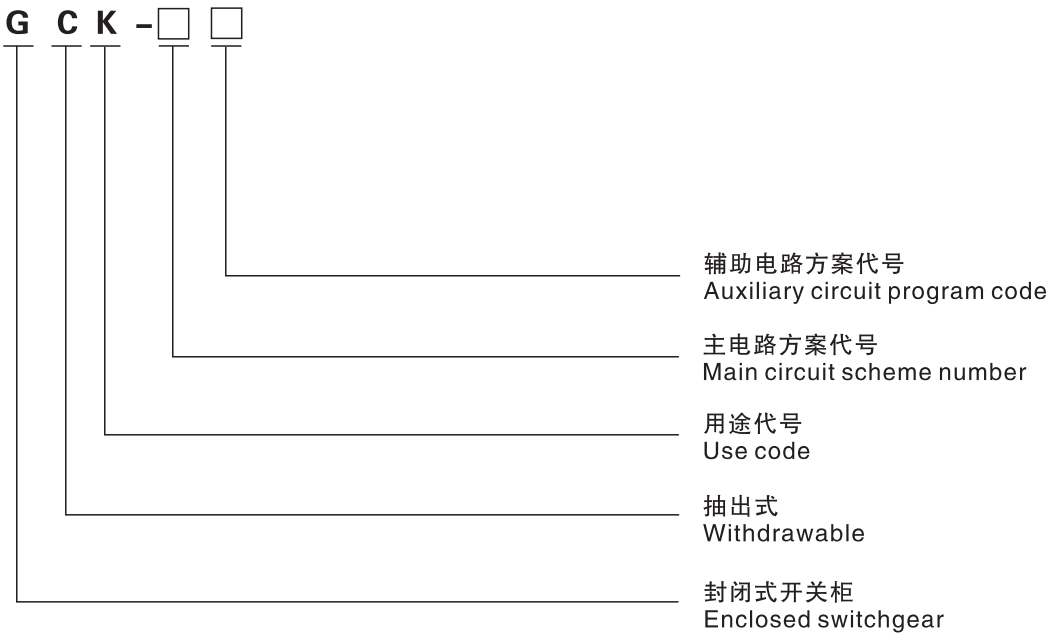


低压抽出式开关柜GCK

Low-voltage Drawer-type Switchgear GCK



型号含义 《《 Model meaning



产品概述 《《 Product overview

GCK型低压抽出式开关柜由动力配电中心（PC）柜和电动机控制中心（MCC）二部分组成。适用于额定频率50HZ,额定工作电压400V（690V），额定工作电流至4000A及以下的电力系统中，作为动力配电、电动机控制及照明等配电设备的电能转换、分配、控制之用。广泛应用于工矿、住宅小区、高层建筑及学校等配电场所。

The GCK consists of a power distribution center (PC) cabinet and a motor control center (MCC). It is applicable to power systems with rated frequency of 50HZ, rated working voltage of 400V (690V) and rated working current of 4000A and below. It plays the role of power conversion, distribution and control for power distribution equipment such as power distribution, motor control and lighting and so on, widely using in mining, residential areas, high-rise buildings, schools and other power distribution places.

产品特点 《《 Product Features

GCK开关柜具有分断能力高、动热稳定性好、结构先进合理、电气方案灵活、系列性、通用性强、各种方案单元任意组合、一台柜体容纳的回路数较多、节省占地面积、防护等级高、安全可靠、维修方便等优点。

GCK switchgear has the advantages of high breaking capacity and dynamic thermal stability, advanced and reasonable structure, flexible electrical scheme, series, strong universality, arbitrary combination of various scheme units, more circuits contained in one cabinet, saving space, high level of protection, safety and reliability, convenient maintenance and so on.

1.整柜采用拼装式组合结构，模数孔安装，零部件通用性强，适用性好，标准化程度高。

The whole cabinet adopts the assembled combination structure, with modular hole installation, strong universality of parts, high applicability and standardization.

2.柜体上部为母线室、前部为电器室、后部为电缆进出线室，各室间有钢板或绝缘板作隔离，以保证安全。

The upper part of the cabinet is the busbar room, the front part is the electrical room, and the rear part is the cable inlet and outlet room. There is steel plate or insulation board between each room for isolation to ensure safety.

3.MCC柜抽屉小室的门与断路器或隔离开关的操作手柄设有机械联锁，只有手柄在分断位置时门才能开启。

The door of the MCC cabinet drawer chamber is mechanically interlocked with the operating handle of the circuit breaker or the disconnecter, and the door can only be opened when the handle is in the breaking position.

4.受电开关、联络开关及MCC柜的抽屉具有三个装置：接通位置、试验位置、断开位置。

The power switch, the tie-switch and the drawer of the MCC cabinet have three devices: the on position, the test position, and the off position.

5.开关柜的顶部根据受电需要可装母线桥。

The top of the switchgear can be fitted with a busbar bridge according to the demand of electricity.

工作条件 《《 Working conditions

1. 环境温度：-5℃~+40℃；

1.Environment temperature: -5℃~+40℃;

2. 海拔高度：不高于2000m;

2.Altitude: no more than 2000m;

3. 相对湿度：日平均值≤95%，月平均值≤90%;

3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

4. 地震烈度：不超过8度;

4.Earthquake intensity: no more than 8 degrees

5. 安装场所：无腐蚀，无剧烈震动和冲击的户内场所;

5.Installation site: indoor place without corrosion, violent vibration and impact;

6. 超出正常使用条件时，由用户与本公司协商。

6.If it exceeds the normal use conditions, the user can negotiate with our company.



■ 订 货 须 知 《》 Instruction of Order

- 订货时需提供以下资料：
- The following documents shall be provided when ordering:
- 1.主电路方案，编号或主电路组合排列图；

1.The main circuit scheme, number or main circuit arrangement diagram;
- 2.辅助电路电气原理图；

2.Electrical schematic diagram of auxiliary circuit;
- 3.开关设备平面布置图；

3.Layout plan for switchgear;
- 4.主电路系统组合系统图；

4.Composite system diagram of the main circuit system;
- 5.其它与产品正常使用条件不符的特殊要求。

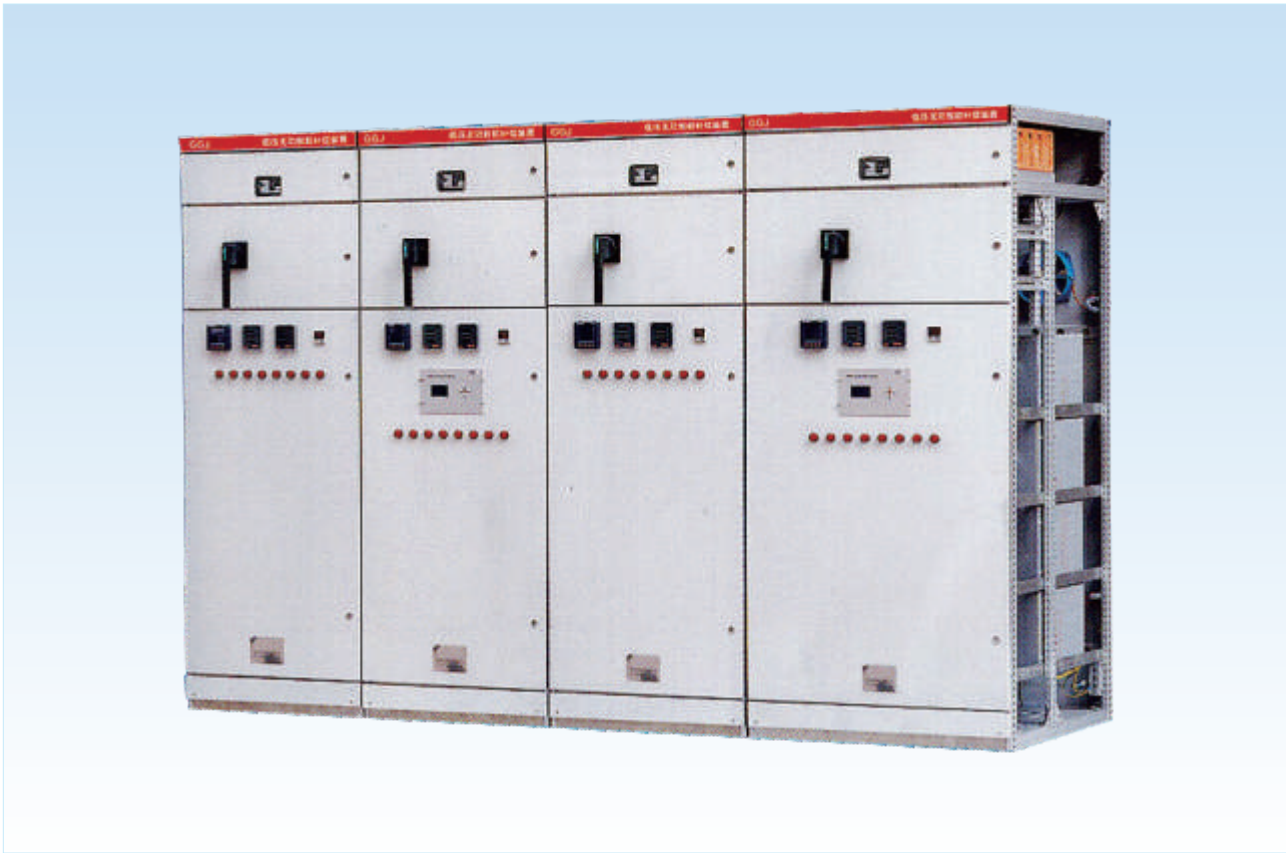
5.Any special requirements that doesn't conform to the normal conditions.

■ 技 术 参 数 《》 Technical Parameter

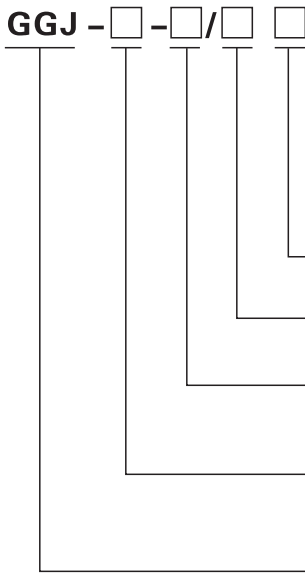
项目 Project		单位 Unit	参 数 Parameter
主电路额定电压 Rated voltage of main circuit		V	AC 400 690
辅助电路额定电压 Rated Voltage of Auxiliary Circuit		V	AC 220 380 DC 110 220
额定频率 Rated frequency		HZ	50
额定绝缘电压 Rated insulation voltage		V	1000
额定电流 Rated current	水平母线 Horizontal bus bar	A	≤4000
	垂直母线 Vertical bus bar	A	600~1500
额定峰值耐受电流(0.1s) Rated peak withstand current(0.1s)		KA	105、176
额定短时耐受电流(1s) Rated short time withstand current(1s)		KA	50、80
工频耐压 (Imin) Power frequency withstand voltage(1min)	主电路 Main circuit	V	2500
	辅助电路 Auxiliary circuit	V	1760
母线 Bus	三相四线 Three phase four wire	A、B、C、PEN	
	三相五线 Three phase five wire	A、B、C、PE、N	
柜体防护等级 protection level of cabinet		IP30、IP40	

低压无功智能补偿柜GGJ

Low-voltage Reactive Power Intelligent Compensation Cabinet GGJ



■ 型 号 含 义 《》 Model meaning



接线方式：D为角型接线，Y为星型接线
Wiring:D angular wiring,Y star connection

电压等级：230V,400V
Voltage rating:230V,400V

补偿容量 (Kvar)
Comensation (Kvar)

补偿方式：
1为静态补偿，常规可省略
Comensation convenience:
1 dynamic compensation,routine can be omitted

补偿柜
Compensation cabinet



■ 产品概述 » » Product overview

GGJ低压无功智能补偿柜能有效改善用电负荷的功率因数，降低线损，提高变压器的实际负载能力，具有显著的节能效果。同时在系统中采用特定的电抗器，还可以有效防止谐波放大，有效吸收大部分谐波电流，使谐波电压总畸率限值及各次谐波电流含量限值符合国家标准，达到谐波治理的目的。我们建议用户在以下场合，能优先考虑使用动态无功补偿装置，如：工矿企业的变电所，生产车间及民用建筑等的低压电网中，特别适合负荷经常变化，无功功率不稳定的输配电系统。

GGJ can effectively improve the power factor of the power load, reduce the line loss, and improve the actual load capacity of the transformer, which has significant energy saving effect. At the same time, the use of specific reactors in the system can also effectively prevent harmonic amplification, effectively absorb most of the harmonic currents, make the harmonic voltage total distortion rate limit and each harmonic current content limit meet the national standards, and achieve harmonics the purpose of wave governance.We recommend that users should give priority to the use of dynamic reactive power compensation devices in the following situations, such as substation of industrial and mining enterprises, and low-voltage power grids of production workshop and civil building, which are especially suitable for distribution system with frequent changing loads and unstable reactive power.

■ 产品特点 » » Product Features

1. 该补偿柜通用性能强，可与国内外任意柜体进行组合，如MNS、GCK、GGD等；
The compensation cabinet has strong universal performance and can be combined with any cabinet at home and abroad, such as MNS, GCK, GGD, etc.
2. 电容柜的补偿方式灵活多样。具有Y型补偿方式、A型补偿方式、Y+A型组合补偿方式；
The compensation method of the capacitor cabinet is flexible and diverse, which has Y-type compensation mode, A-type compensation mode and Y+A combination type compensation mode;
3. 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；
Diversity of communication methods. It has RS-232/485 communication interface, wireless data transmission module or GPRS module to carry out long-distance communication;
4. 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；
Control accurately and safely. Implement the zero voltage trigger, no surge current cut off by zero when inputting, and no high voltage generated when breaking;
5. 使用寿命长。
Long service life.

■ 工作条件 » » Working conditions

- 1.环境温度：-5℃~+40℃；
2.海拔高度：不高于2000m；
3.相对湿度：日平均值≤95%，月平均值≤90%；
4.地震烈度：不超过8度；
5.安装场所：无腐蚀，无剧烈震动和冲击的户内场所；
6.超出正常使用条件时，由用户与本公司协商。
- 1.Environment temperature: -5℃~+40℃;
2.Altitude: no more than 2000m;
3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;
4.Earthquake intensity: no more than 8 degrees
5.Installation site: indoor places without corrosion, violent vibration and impact;
6.If it exceeds the normal use conditions, the user can negotiate with our company.

■ 订货须知 » » Instruction of Order

订货时需提供以下资料：

- 1.主电路方案和辅助电路方案；
- 2.主电路系统组合顺序图；
- 3.柜体平面布置图；
- 4.辅助电路电气原理图；
- 5.其它与产品正常使用条件不符的特殊要求。

The following documents shall be provided when ordering:

- 1.The main circuit scheme, and auxiliary circuit scheme;
- 2.Composite sequence diagram of the main circuit system;
- 3.Layout plan for switchgear;
- 4.Electrical schematic diagram of auxiliary circuit;
- 5.Any special requirements that doesn't conform to the normal conditions.

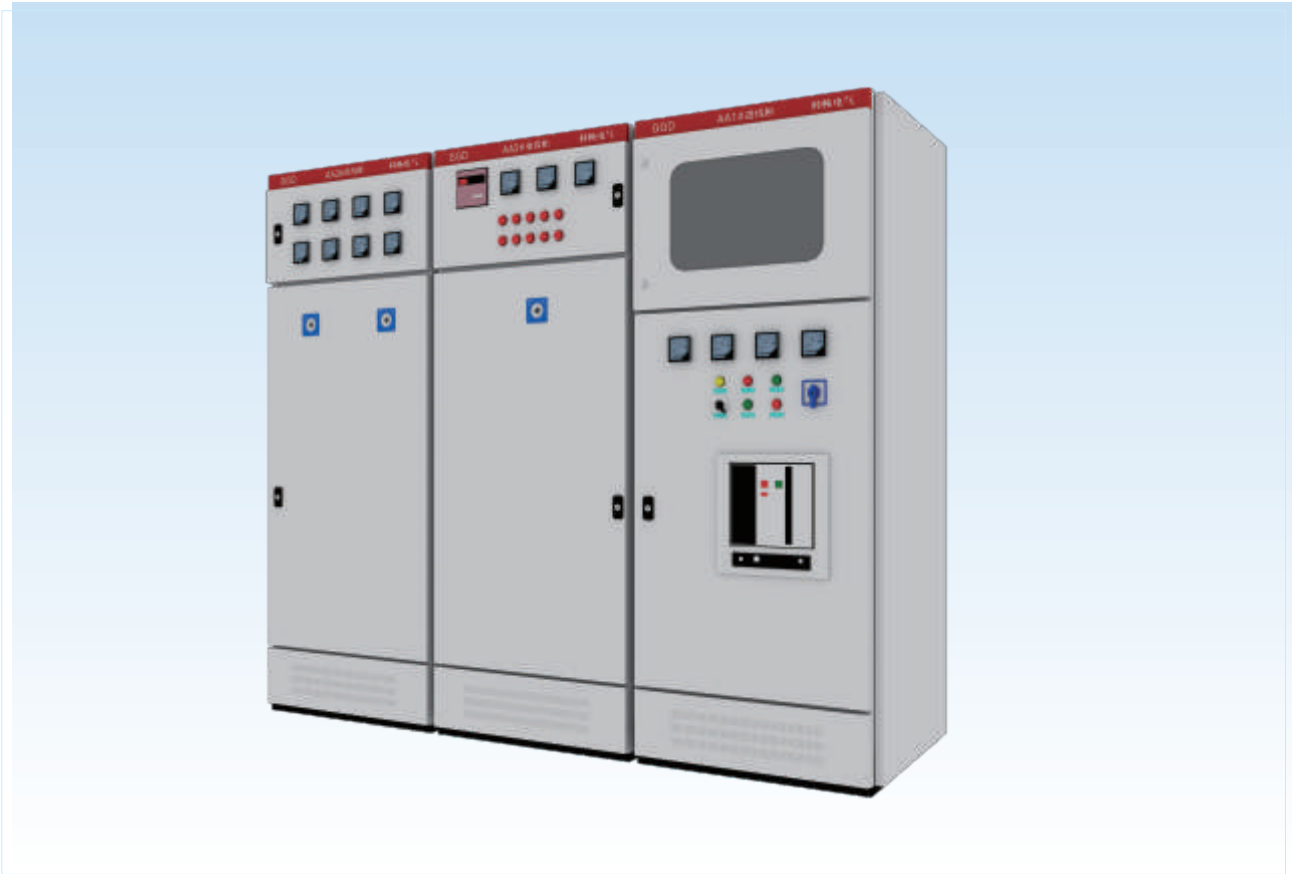
■ 技术参数 » » Technical Parameter

项目 Project	单位 Unit	参 数 Parameter
额定电压 Rated voltage	V	AC400
额定频率 Rated frequency	HZ	50
额定绝缘电压 Rated insulation voltage	V	660
补偿容量 Compensation capacity	Kvar	60~420
最快响应时间 Fastestresponse time	ms	≤20
补偿方式 Compensation mode	三相补偿和单相补偿相结合 Integrated compensation for three-phase and single-phase	
投切方式 Switching mode	循环投切、编码投切、模块控制自动投切 Circulating switch, coding switch, automatic switch by modular control	
柜体防护等级 protection level of cabinet	IP30	

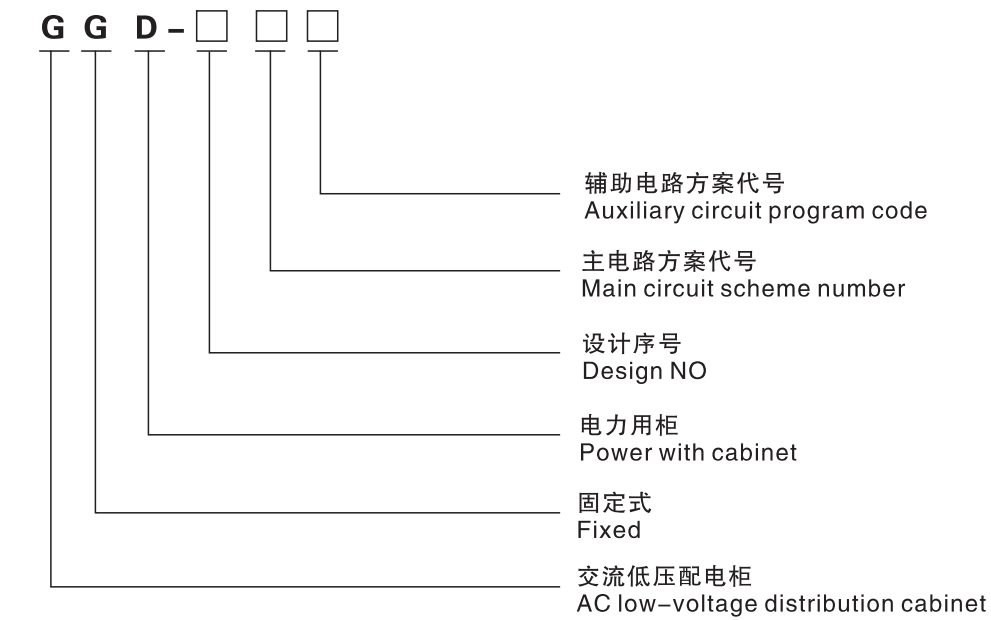


低压固定式开关柜GGD

Low-voltage Fixed-type Switchgear GGD



型号含义 >> Model meaning



产品概述 >> Product overview

GGD型低压固定式开关柜适用于额定频率50Hz,额定工作电压400V, 额定工作电流至3150A及以下的电力系统中, 作为动力、照明及配电设备的电能转换、分配与控制之用, 广泛应用于工矿、住宅小区、高层建筑及学校等配电场所。

GGD low-voltage fixed-type switchgear is fit for the power system with rated frequency of 50Hz, rated operational voltage of 400V and rated operational current of or under 3150A. GGD low-voltage fixed-type switchgear is widely used in power-distribution sites such as industrial and mining districts, residential quarters, high-rise buildings and schools to convert, distribute and control power for the power plant, lighting and distribution equipment.

产品特点 >> Product Features

1.GGD型低压固定式开关柜是本着安全、经济、合理、可靠的原则设计的新型低压配电柜。具有机构合理, 安装维护方便, 防护性能好, 分断能力高等优点, 容量大, 分段能力强, 动稳定性强, 电器方案适用性广等优点。

GGD low-voltage fixed-type switchgear is a new type of voltage distribution cabinet adhering to the principle of security, economization, rationality and reliability.GGD low-voltage fixed-type switchgear has reasonable mechanism, great defense performance, high breaking capacity, and is convenient either for installation or maintenance. What's more, GGD low-voltage fixed-type switchgear has large capacity, high segmentation ability and dynamic stability, wide applicability of electrical solutions.

2.采用通用柜形式, 构架用8MF冷弯型钢局部焊接组装而成, 并有20模的安装孔, 通用系数高。

GGD Low-voltage fixed-type switchgear has adopted the general cabinet form. The framework is assembled partial welding of 8MF cold-formed steel, and has 20-mode mounting holes with high universal coefficient.

3.充分考虑散热问题。在柜体上下两端均有不同数量的散热槽孔, 当柜内电器元件发热后, 热量上升, 通过上端槽孔排出, 而冷风不断地由下端槽孔补充进柜, 使密封的柜体自下而上形成一个自然通风道, 达到散热的目的。

The heat dissipation is fully considered in the design of GGD low-voltage fixed-type switchgear. There are different numbers of heat dissipation holes on the upper and lower ends of the switchgear. When the electrical components in the switchgear are heated, the heat rises and is discharged through the upper slots. And then the cold air is continuously replenished into the switchgear through the lower slot, so that a natural vent passage is formed from the bottom to the top of the sealed switchgear and the purpose of heat dissipation is achieved.

4.按照现代化工业产品造型的要求, 采用黄金分割的方法设计柜体外形和各部分的分割尺寸, 使整柜美观大方, 面目一新。

In accordance with the requirements of modern industrial product modeling, the golden section principle is applied to design the shape of the switchgear and the division size of each part, so that the whole switchgear has elegant and fresh appearance.

5.柜体的顶盖在需要时可拆除, 便于现场主母线的装配和调整, 柜顶的四角装有吊环, 用于起吊和装运。

The top cover of the switchgear can be removed when it is needed, which is convenient for the assembly and adjustment of the main bus bar on the site. The four corners of the switchgear top are equipped with lifting rings for lifting and shipping.

6.柜体防护等级通常为IP30, 用户也可根据环境的要求选择其它等级。

Normally, the protection degree of the cabinet is IP30, while users can also select other protection degrees according to the environment.



工作条件 《》 Working conditions

- | | |
|-----------------------------------|--|
| 1.环境温度: -5℃~+40℃ ; | 1.Environment temperature: -5℃~+40℃; |
| 2.海拔高度: 不高于2000m; | 2.Altitude: no more than 2000m; |
| 3.相对湿度: 日平均值≤95%, 月平均值≤90%; | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4.地震烈度: 不超过8度; | 4. Earthquake intensity: No more than 8 degrees |
| 5.安装场所: 周围空气应不受腐蚀性或可燃气体、水蒸气等明显污染; | 5.Installation site: The air shall be free from the obvious pollution of the corrosive or flammable gas, vapour, etc.; |
| 6.超出正常使用条件时, 由用户与本公司协商。 | 6.If it exceeds the normal use conditions, the user can negotiate with our company. |

订货须知 《》 Instruction of Order

- | | |
|-----------------------|---|
| 订货时需提供以下资料: | The following documents shall be provided when ordering: |
| 1.主电路方案, 编号或主电路组合排列图; | 1.The main circuit scheme, number or main circuit arrangement diagram; |
| 2.辅助电路电气原理图; | 2.Electrical schematic diagram of auxiliary circuit; |
| 3.开关设备平面布置图; | 3.Layout plan for switchgear; |
| 4.主电路系统组合系统图; | 4.Composite system diagram of the main circuit system; |
| 5.其它与产品正常使用条件不符的特殊要求。 | 5.Any special requirements that doesn't conform to the normal use conditions. |

技术参数 《》 Technical Parameter

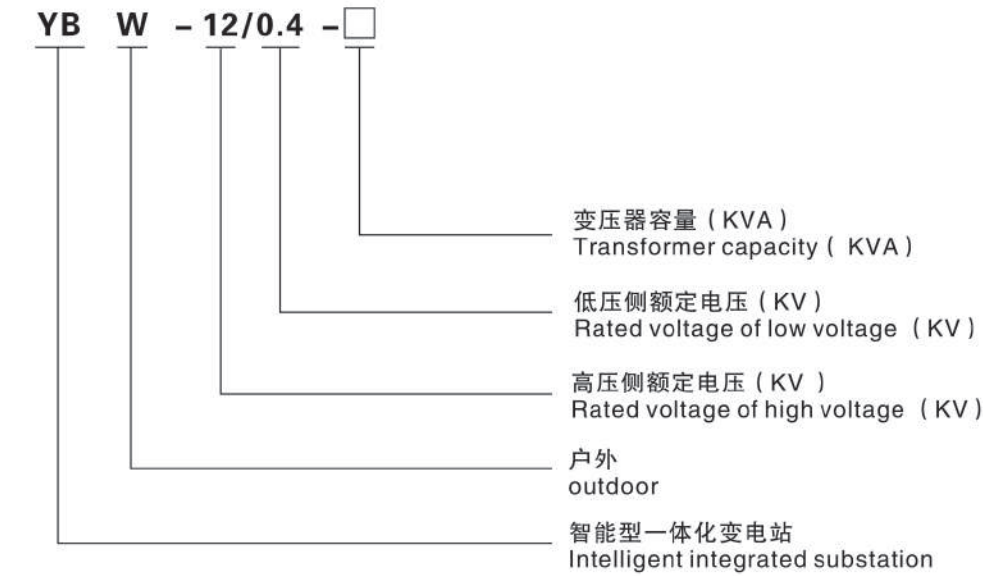
项目 Project	额定电压 Rated voltage (V)	额定电流 Rated current (A)		额定短路 开断电流 Rated short circuit breaking current (KA)	额定短时 耐受电流 Rated short time withstand current (KA)	额定峰值 耐受电流 Rated peak withstand current (KA)
GGD1	400	A	1000	15	15	30
		B	600 (630)	15	15	30
		C	400	15	15	30
GGD2	380	A	1500 (1600)	30	30	63
		B	1000	30	30	63
		C	600	30	30	63
GGD3	380	A	3150	50	50	105
		B	2500	50	50	105
		C	2000	50	50	105

预装式箱式变电站YBW-12

Pre-installed box substation YBW-12



型号含义 《》 Model meaning





产品概述 《》Product overview

YBW-12型系列预装式箱式变电站是将高压开关设备、变压器、低压配电设备等组合成一体 的紧凑型成套配电设备。适用于额定频率50HZ，额定电压12KV的三相交流系统。具有成套性强，高、 低压保护完善，运行安全可靠，维护简单，体积小、投资省、生产周期短、移动方便， 接线方案灵活多样等特点，广泛用于城市电网改造、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。

YBW-12 series of pre-installed box-type substation are compact and complete type of power distribution equipment that combines high-voltage switchgear, transformer and low-voltage power distribution equipment. Suitable for three-phase AC systems with rated frequency 50HZ and rated voltage 12KV. It has many features such as strong set, high and low pressure protection, safe and reliable operation, simple maintenance, small size, low investment, short production cycle, convenient movement and flexible wiring scheme. It is widely used in Indoor and outdoor places such as urban power grid reconstruction, residential quarters and high-rise buildings, mining, hotels, shopping malls, airports, railways, oil fields, terminals, highway and temporary power facilities.

产品特点 《》Product Features

1.主结构 Main structure

本系列预装式变电站由外壳、高压配电设备及控制设备、变压器及低压配电设备及控制设备与相应的内部连接 线（电缆、母排和其它）和辅助设备组成，并分为高压室，变压器室和低压室三个功能隔室。

This series of prefabricated substations consists of a casing, high-voltage power distribution equipment and control equipment, transformers and low-voltage power distribution equipment and control equipment and corresponding internal connecting lines (cables, busbars and other) and auxiliary equipment, and it is divided into high-voltage rooms. , three functional compartments of transformer room and low pressure room.

2.高压室 High pressure room

高压侧一次供电系统可布置成环网供电，终端供电和双电源供电等多种供电方式，还可装设高压计量元件，满 足高压计量的需求。在10kV终端用户配电变压器的保护通常有两种方式:一是利用负荷开关加高压熔断器所构成的组 合电器保护,二是利用真空断路器保护。高压室结构紧凑合理，并有全面防范操作连锁功能。高压环网柜内可装配网 自动化终端,实现短路及单相接地故障的可靠检测，具备“四遥”功能，便于配网自动化升级。

The high-voltage side primary power supply system can be arranged into a ring network power supply, terminal power supply and dual power supply and other power supply modes, and can also be equipped with high-voltage metering components to meet the needs of high-voltage metering. There are usually two ways to protect the distribution transformer of the 10kV terminal user: one is to use the combination of the load switch and the high-voltage fuse to protect the combination, and the other is to use the vacuum circuit breaker protection. The high-pressure chamber is compact and reasonable in structure, and has a comprehensive anti-operation chain function. The high-voltage ring network cabinet can be equipped with a network automation terminal to realize reliable detection of short-circuit and single-phase ground faults, and has the function of “four remotes” to facilitate automatic upgrade of distribution network.

3.变压器室 Transformer room

智能型一体化变电站选用S11、S13、SH15等系列油浸式变压器，也可采用SCB10、SCB11、SCB15等系列树 脂绝缘型干式变压器，底部配有小车，增设轨道，使得变压器方便进出。

The intelligent integrated substation adopts series of oil-immersed transformers such as S11, S13 and SH15. It can also use SCB10, SCB11, SCB15 and other series of resin-insulated dry-type transformers. The bottom is equipped with trolleys and additional rails are added to make the transformers easy to enter and exit.

4.低压室：Low voltage room

低压侧主开关采用智能型断路器，选择性保护；出线开关选用新型塑壳式开关，体积小，飞弧短，最多可达 30回路；智能型自动跟踪无功补偿装置，有接触器和无触点两种切投方式供用户选用。低压室有动力配电、照明 配电、无功功率补偿、电能计量和电量测量等多种功能，满足用户的不同需求，并方便用户的用电管理和提高供 电质量。

The low-voltage side main switch adopts intelligent circuit breaker for selective protection; the outlet switch adopts new plastic-shell switch, which is small in size and short in arcing, up to 30 loops; intelligent automatic tracking reactive power compensation device, with contactor and no contact two kinds of cutting methods which are available for users to choose. The low-voltage room has various functions such as power distribution, lighting distribution, reactive power compensation, energy metering and power measurement, etc., to meet the different needs of users, and to facilitate user power management and improve power quality.

5.外壳 Shell

外壳结构独特，形式多样，有通用型、别墅型、紧凑型等多种样式，可根据用户要求选用景观式、GRC材 料、金属材料，非金属材料，复合材料等多种材料。外壳牢固，隔热又散热、通风、美观、防护等级高，箱体结 构能防止雨水、污物进入，确保各电气设备安全运行；

The shell structure is unique and various in form, and it has various styles such as general type, villa type and compact type. It can be used according to user requirements for landscape type, GRC material, metal material, non-metal material, composite material and so on. The shell is firm, heat-insulating, heat-dissipating, ventilated, beautiful, and has a high degree of protection. The cabinet structure can prevent rainwater and dirt from entering and ensure the safe operation of all electrical equipment.

工作条件 《》Working conditions

- | | |
|----------------------------------|--|
| 1.环境温度：-5℃~+40℃； | 1.Environment temperature: -5℃~+40℃; |
| 2.海拔高度：不高于2000m； | 2.Altitude: no more than 2000m; |
| 3.相对湿度：日平均值≤95%，月平均值≤90%； | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4.地震烈度：不超过8度； | 4.Earthquake intensity: No more than 8 degrees |
| 5.安装场所：周围空气应不受腐蚀性或可燃气体、水蒸气等明显污染； | 5.Installation site: The air shall be free from the obvious pollution of the corrosive or flammable gas, vapour, etc.; |
| 6.超出正常使用条件时，由用户与本公司协商。 | 6.If it exceeds the normal use conditions, the user can negotiate with our company. |

订货须知 《》Instruction of Order

订货时需提供以下资料：

- 1.主电路方案，编号或主电路组合排列图；
- 2.辅助电路电气原理图；
- 3.开关设备平面布置图；
- 4.主电路系统组合系统图；
- 5.其它与产品正常使用条件不符的特殊要求。

The following documents shall be provided when ordering:

- 1.The main circuit scheme, number or main circuit arrangement diagram;
- 2.Electrical schematic diagram of auxiliary circuit;
- 3.Layout plan for switchgear;
- 4.Composite system diagram of the main circuit system;
- 5.Any special requirements that doesn't conform to the normal use conditions.



■ 技术参数 >> Technical Parameter

项目 Project		单位 Unit	参 数 Parameter			
			负荷开关 Load switch	真空负荷开关 Vacuum load switch	SF6负荷开关 SF6 load switch	真空断路器 Vacuum breaker
高压侧 high pressure side	额定频率 Rated frequency	HZ	50	50	50	50
	额定电压 Rated voltage	KV	12	12	12	12
	额定电流 Rated current	A	630 (熔断器 fuse125)	630 (熔断器 fuse125)	630 (熔断器 fuse125)	630~3150
	额定短时耐受电流 Rated short time withstand current	KA			20	20、25、31.5、40
	额定峰值耐受电流 Rated peak withstand current	KA			50	50、63、80、100
	额定短路关合电流 Rated short ci rcuit current	KA	50	50	50	50、63、80、100
	熔断器开断电流 Fuse breaking current	KA	31.5	31.5	31.5	
	额定热稳定电流 (有效值) Rated thermal current (valid value)	KA/S	20/2	20/4		
	额定动稳定电流 Rated dunamic current	KA	50	50		
	雷电冲击耐压 Lightning impuls withstand voltage	KV	75	75	75	75
	1min工频耐压 1min power frequency withstand voltage	KV	42	42	42	42
	柜体防护等级 protection level of cabinet		IP3X	IP3X	IP3X	IP4X
项目 Project		单位 Unit	参 数 Parameter			
			万能式断路器 Universal circuit breaker			
低压侧 Low pressure side	额定频率 Rated frequency	HZ	50			
	额定电压 Rated voltage	V	AC400、690			
	额定绝缘电压 Rated insulation voltage	V	1000			
	额定电流 Rated current	A	200~6300A			
	额定极限短路分段能力 Rated limit short circuit segment capability	kA	400V	55~150		
			690V	35~120		
	额定运行短路分段能力 Rated short circuit segment capability	kA	400V	65~150		
			690V	50~120		
	额定短路耐受电流 Rated short circuit tolerance current	kA	400V	50~150		
			690V	40~120		

户外高压开闭所
Outdoor High-voltageSub-section Post



■ 产品概述 >> Product overview

开闭所指用于接受电力并分配电力的供配电设施，高压电网中称为开关站。中压电网中的开闭所一般用于10kV电力的接受与分配。开闭所位于电力系统中变电站的下一级，是将高压电力分别向周围的用电单位供电的电力设施。它不仅是配电网底层最基本的单元，更是电力由高压向低压输送的关键环节之一。广泛用于车站、货场附近、电力机务段、枢纽站等大宗负荷处。

The sub-section post refers to the power supply and distribution facilities used to receive electricity and distribute electricity, which is called a switching substation in high-voltage power grid. The sub-section post in the medium voltage grid is generally used for the acceptance and distribution of 10 kV power. The sub-section post is located in the next level of the substation in power system, and is a power facility that supplies high-voltage power to the surrounding companies separately. It is not only the most basic unit in the low level of the distribution network, but also one of the key links for the electricity transmission from high voltage to low voltage. It is widely used in stations, cargo yards, power locomotive depot, hub terminal and other heavy load places.



产品特点 《《 Product Features

1.户外开闭所所有负荷开关设备均可配置电流、电压互感器、UPS电源、FTU等，以满足自动化及计量要求。模拟母线图能可靠地显示出开关闭合、断开和接地位置，具有带电显示装置。

All the load switchgear of sub-section post can be equipped with current, voltage transformer, UPS power supply, FTU, etc. to meet automation and metering requirements. The analog busbar diagram can reliably identify the switch closure, disconnection and grounding position, and has a live display.

2.户外开闭所一次设备均有闭合、断开、接地三种位置，并且具有闭锁功能，可有效防止带电接地和带电接地合闸等误操作。所有一次设备有可靠的机械联锁，只有在接地位置才能打开出线室门板，确保人身安全；

The primary equipment of outdoor sub-section post has three positions of closing, disconnecting and grounding, and has a locking function, which can effectively prevent incorrect operations such as live grounding and branch closing with live grounding. All primary equipment has a reliable mechanical interlock, and the outlet room panel can only be opened at the grounding position to ensure personal safety;

3.户外开闭所将供电臂分段，事故时缩小事故范围，提高供电的可靠性、灵活性；减少变电所的复杂性；不改变电压大小，只扩大馈线回路数，相当于配电所。

The outdoor sub-section post segment the power supply arm, which will narrow the accident range during an accident, and improve the reliability and flexibility of the power supply; reduce the complexity of the substation; only expand the feeder circuit number without changing the voltage, which is equivalent to distribution substation.

工作条件 《《 Working conditions

- | | |
|----------------------------------|--|
| 1. 环境温度：-5℃~+40℃； | 1.Environment temperature: -5℃~+40℃; |
| 2. 海拔高度：不高于2000m； | 2.Altitude: no more than 2000m; |
| 3.相对湿度：日平均值≤95%，月平均值≤90%； | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4. 地震烈度：不超过8度； | 4.Earthquake intensity: No more than 8 degrees |
| 5.安装场所：周围空气应不受腐蚀性或可燃气体、水蒸气等明显污染； | 5.Installation site: The air shall be free from the obvious pollution of the corrosive or flammable gas, vapour, etc.; |
| 6. 超出正常使用条件时，由用户与本公司协商。 | 6.If it exceeds the normal use conditions, the user can negotiate with our company. |

订货须知 《《 Instruction of Order

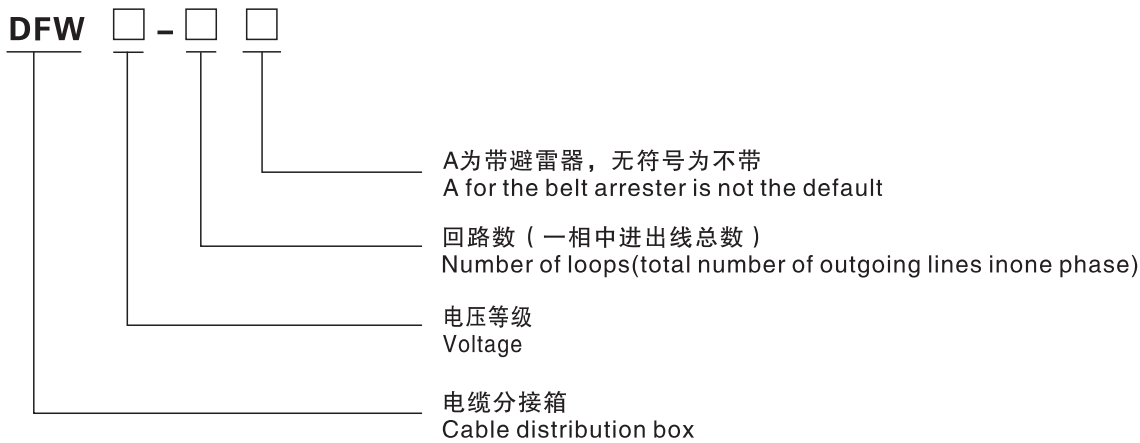
- | | |
|--------------------------|--|
| 订货时需提供以下资料： | The following documents shall be provided when ordering: |
| 1. 开闭所的容量； | 1.The capacity of the sub-section post; |
| 2. 高压一次接线方案及主要元器件的型号和参数； | 2.High-voltage primary wiring scheme, and the model and parameters of main components; |
| 3. 如有特殊需求，可与我公司协商。 | 3.If there are any special needs, negotiate with our company. |

电缆分接箱DFW-12

Cable Distribution Box DFW-12



型号含义 《《 Model meaning



产品概述 《《 Product overview

欧式电缆分接箱是一种用来对电缆线路实施分接、分支、接续及转换电路的设备。广泛用于电力配网系统中的电缆化工程设备，多用于户外。

The European cable distribution box is a device for tapping, branching, connecting and converting circuits to cable lines. It is widely used in cable engineering equipment in power distribution network systems, mostly used in outdoor.



产品特点 » » Product Features

电缆分接箱按其电气构成分为两大类：一类是不含任何开关设备的，箱体内仅有对电缆端头进行处理和连接的附件，结构比较简单，体积较小，功能较单一，称为普通分接箱；另一类是箱内不但有普通分接箱的附件，还含有一台或者多台开关设备，其结构较为复杂，体积较大，连接器件多，制造技术难度大，造价高，称为高级分接箱。

Cable distribution boxes are divided into two categories according to its electrical structure: one is a distribution box that does not contain any switchgear, with the accessories for handling and connecting the cable ends in the cabinet. It has simple structure, small volume and simple function, which is known as ordinary distribution box. The other one is that there are not only accessories of ordinary distribution box, but also contains one or more switch devices, with more complicated structure, larger volume, more connected devices, more difficult manufacturing technology, higher cost, which is known as advanced distribution box.

1.普通分接箱 Ordinary Distribution Box

普通分接箱内没有开关设备，进线与出线在电气上连接在一起，电位相同，适宜用于分接或分支接线。通常习惯将进线回数加上出线回数称为分支数。例如三分支电缆分接箱，它的每一相上都有三个等电位连接点，可以用作一进二出或二进一出。电缆分接箱内含U、V、W三相，三相电路结构相同，顺排在一起。

There is no switchgear in the ordinary distribution box. The incoming and outgoing lines are connected together, and the potential is the same, which is suitable for tapping or branching. It is customary to refer to the number of incoming lines plus the number of outgoing lines as the number of branches. For example, a three-branch cable distribution box has three equipotential connection points on each phase, which can be used as one inlet and two outlets, or two inlets and one outlet. The cable distribution box contains three phases of U, V and W, which has the same structure and is arranged side by side.

2.高级分接箱 Advanced Distribution Box

高级分接箱内含有开关设备，既可普通分接箱的分接、分支作用，又可起供电电路的控制、转换以及改变运行方式的作用。开关断口大致将电缆回路分隔为进线侧和出线侧，两侧电位可以不一样。开关设备本身有较大的体积，因此高级分接箱的外形尺寸比较大，高度一般1.4 ~ 1.8m，深度约为0.9 ~ 1.0m。长度则依所含开关设备数目而定，多在1.0m至2.4m之间。箱体的外形类似于户外箱式变压器，箱壳上有若干个活动的门，有的门是为开关设备的操作而设，有的门是为电缆连接器件的安装施工或维护检修而设的。

The advanced distribution box contains switchgear, which can not only tap and branch the ordinary distribution box, but also control, convert and change the operation mode of the power supply circuit. The break of the switch roughly separates the cable circuit into the incoming and outgoing sides, and the potentials on both sides can be different. The switchgear has a large volume, so the size of advanced distribution box is relatively large, the height is generally 1.4 ~ 1.8m, and the depth is about 0.9 ~ 1.0m. The length depends on the number of switching devices included, ranging from 1.0m to 2.4m. The shape of the box is similar to the outdoor box transformer. There are several movable doors on the box: some are for the operation of the switchgear, and some are for the installation or maintenance of the cable connection device.

订货须知 » » Instruction of Order

订货时需提供以下资料：

- 1.电路方案；
- 2.外壳防护等级。

The following documents shall be provided when ordering:

- 1. Circuit scheme.
- 2. Protection grade of the shell.

工作条件 » » Working conditions

1.环境温度：-5℃~+40℃（24h内的平均温度不得高于+35℃）；

2.海拔高度：不超过1000m；

3.相对湿度：日平均值不大于95%，月平均值不大于90%；

4.设备安装时与垂直面的倾斜度：不超过5度

5.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户内外场所；

6.若超出以上条件，用户可与我公司协商。

1.Environment temperature: -5℃~+40℃ (the average temperature shall no more than +35℃ within 24 hours) ;

2.Altitude: no more than 1000m;

3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%;

4.Inclination of the vertical plane when the device is installed: no more than 5 degrees;

5.Installation site: indoor or outdoor places with no fire, no explosion danger, no conductive dust, no chemical corrosive gas and no severe vibration;

6.If it exceeds the above conditions, the user can negotiate with our company.

技术参数 » » Technical Parameter

项目 Projent	单位 Unit	参 数 Parameter
额定电压 Rated voltage	KV	12
额定频率 Rated frequency	HZ	50
额定电流 Rated current	A	630
热稳定电流 Thermally stable current	KA/S	20/3
动稳定电流 Dynamic stable current	KA/S	50/0.3
15 分钟直流耐压 15 minutes DC pressure resistance	KV	52
Imin工频耐压 1min power frequency withstand voltage	KV	42
雷电冲击耐压 Lightning impulse withstand woltage	KV	105
箱体防护等级 Box protection class	IP33	



预付费高压计量箱

Prepaid high pressure metering box



4.开关和计量箱一体化布置，体积小，结构简单紧凑，安装方便，综合投资少。
The switch and the metering box are integrated, the volume is small, the structure is simple and compact, the installation is convenient, and the comprehensive investment is not much.

工作条件 《》 Working conditions

- 1.环境温度：-30℃~+40℃；

2.海拔高度：不高于1000m；

3.相对湿度：日平均值≤95%，月平均值≤90%；

4.地震烈度：不超过8度；

5.安装场所：空气应不受腐蚀性或可燃气体、水蒸气等明显污染，无剧烈振动的场所；

6.超出正常使用条件时，由用户与本公司协商。
- 1.Environment temperature: -30℃~+40℃；

2.Altitude: no more than 1000m；

3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%；

4.Earthquake intensity: no more than 8 degrees

5.Installation site: The air shall be free from the pollution of the corrosive or flammable gas, vapour, etc. And shall be the indoor site with no severe vibration；

6.If it exceeds the normal use conditions, the user can negotiate with our company.

技术参数 《》 Technical Parameter

项目 Project	单位 Unit	参 数 Parameter
最高电压 Maximum voltage	KV	6~12
负荷开关额定电流 Rated current of load switch	A	400
额定接通电流 Rated making current	KA	4
极限分断电流 Ultimate breaking current	KA	5
触头开距 Clearance between open contacts	mm	5±0.5
开关合闸时间 Switch closing time	ms	≤10
开关分闸时间 Switch opening time	ms	≤10
控制回路电压 Control loop voltage	V	AC220
电压互感器 Voltage transformer		1000:100V(0.02级/20VA)
电流互感器 Current transformer		5/5~300/5(0.2S/10VA)
一次对二次及地耐压试验 Primary to secondary and ground pressure test	KV	35 (1min)
二次及控制回路对地 Secondary and control loop to ground	KV	2 (1min)
机械寿命 Mechanical life	次	1000

产品概述 《》 Product overview

预付费高压计量箱适用交流50Hz、6-10kV三相电力系统中做预付费高压计量或负控使用，其主要特点是将计量用电流互感器、电压互感器、电源电压互感器及断电用真空负荷开关组装在一起，便于安装使用。

The prepaid high-pressure metering box is suitable for pre-paid high-voltage metering or negative control in the AC 50Hz, 6-10kV three-phase power system. Its main features are the current transformer for measuring, voltage transformer, power supply voltage transformer and power-off. Vacuum load switches are assembled for easy installation and use.

产品特点 《》 Product Features

1.由高压真空断路器和电流、电压互感器及电表构成，上部为真空断路器,下部为互感器，配有自动和手动两种配置。电表内装有预付费控制装置。箱门锁死，防窃电；

It consists of high-voltage vacuum circuit breaker and current, voltage transformer and electric meter. The upper part is vacuum circuit breaker and the lower part is transformer. It is equipped with automatic and manual configuration. The meter is equipped with a prepaid control device. The door is locked and theft is prevented;

2.采取预付费电表，插卡供电，欠费报警，无费自动停电。也可实现手机远程控制；

Take pre-paid electricity meter, power supply card, arrears alarm, automatic power outage without fee. Mobile phone remote control can also be realized;

3.用真空断路器.可以在线路上开断20KA以下短路电流,也可以配网自动化工程的重合器使用；

Use vacuum circuit breaker. It can break the short-circuit current below 20KA on the line, or it can be used with the recloser of the network automation project;

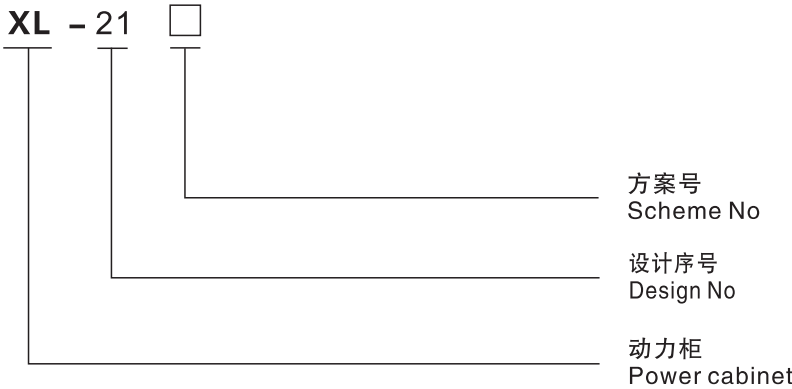


低压动力配电柜XL-21

Low-voltage Power Distribution Cabinet XL-21



型号含义 《》 Model meaning



产品概述 《》 Product overview

XL-21系列低压动力配电柜适用于额定频率50HZ，额定电压400V的三相四线或三相五线的电力系统的配电、照明和电动机控制之用。广泛应用于工矿企业，民用建筑，学校及机关等场所。

XL-21 series of low-voltage power distribution cabinet applies to the power distribution, lighting and motor control of three-phase four-wire or three-phase five-wire power system with rated frequency of 50HZ and rated voltage of 400V. It is widely used in industrial and mining enterprises, civil buildings, schools and institutions, etc.

产品特点 《》 Product Features

XL-21配电柜具有结构紧凑，检修方便，线路方案可以灵活组合等特点。配电柜除装有空气断路器和熔断器作为短路保护功能，还具有过压、欠压、缺相告警功能，箱前门可装指示电表，操作按钮和指示灯。

The XL-21 power distribution cabinet has the characteristics of compact structure, convenient maintenance and flexible combination of line schemes. In addition to be equipped with the air circuit-breakers and fuses as short-circuit protection, the power distribution cabinet also has over-voltage, under-voltage, and phase-out alarm functions. An indicator meter, operation buttons and indicator lights can be installed in the cabinet's front door.

工作条件 《》 Working conditions

1. 环境温度：-5℃~+40℃ ；

2. 海拔高度：不高于2000m；

3. 相对湿度：日平均值≤95%，月平均值≤90%；

4. 地震烈度：不超过8度；

5. 安装场所：无腐蚀，无剧烈震动和冲击的户内场所；

6. 超出正常使用条件时，由用户与本公司协商。
- 1.Environment temperature：-5℃~+40℃；

2.Altitude: no more than 2000m；

3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%；

4.Earthquake intensity: no more than 8 degrees

5.Installation site: indoor places with no corrosion, severe vibration and impact；

6.If the condition has exceeded the normal use, the user can negotiate with our company.

订货须知 《》 Instruction of Order

- 订货时客户需提供下列资料：

1. 一次线路方案及单线系统图；

2. 二次线路展开系统图；
- Users shall provide the following documents when ordering:

1.Primary circuit scheme and single line system diagram；

2.Secondary circuit deployment system diagram；

技术参数 《》 Technical Parameter

项目 Projent	单位 Unit	参 数 Parameter
额定电压 Rated voltage	V	AC400
额定频率 Rated frequency	HZ	50
额定绝缘电压 Rated insulation voltage	V	AC220V AC380V
辅助电路额定电压 Rated Voltage of Auxiliary Circuit	V	AC400
柜体防护等级 protection level of cabinet	IP30	

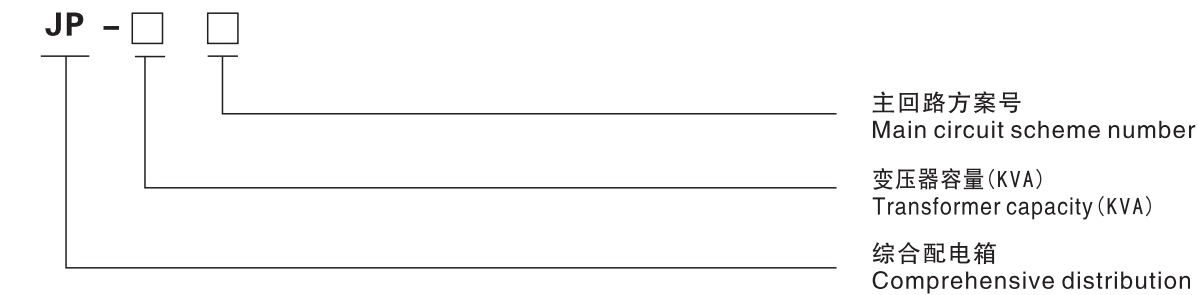


综合配电箱（补偿/控制/终端/照明）JP

Integrated Power Supply Cabinet (compensation / control / terminal / lighting) JP



型号含义 Model meaning



产品概述 Product overview

JP综合配电箱是本着安全、经济、合理、可靠的原则设计的新型户外配电综合箱，具有电能分配、控制、保护、计量、无功补偿等多功能，同时可根据用户需求加装漏电保护功能。广泛应用于城（农）网改造，工矿企业、住宅小区等场所。

JP is a new type of integrated outdoor power supply cabinet designed on the safety, economy, reasonableness and reliability principles. It has the functions of distribution, control, protection, metering, and reactive power compensation, etc. on electric energy, and can be installed according to user requirements to add the leakage protection function. It has widely been used in urban (agricultural) network transformation, industrial and mining enterprises, residential quarters and other places.

产品特点 Product Features

JP综合配电箱具有体积小，配置合理，防护等级高，安装调试、维护维修方便等优点。

JP has the advantages of small size, reasonable configuration, high protection level, convenient installation and commissioning, and convenient maintenance and repair.

1.箱体结构分为立式和卧式.柜体采用对开门，大尺寸柜体内加装加强筋。箱体上下左右通风，具有防止小动物进入设计，箱体防护等级IP54；

The cabinet structure is divided into vertical and horizontal types, which adopts the opposite door, and equip the large-sized cabinet with reinforcing ribs. The cabinet is ventilated up and down, left and right, designed to prevent small animals entering, and with the cabinet protection grade of IP54;

2.JP柜内分为总进线室、计量室、配电出线室、无功补偿室，并相对独立。在计量室预留自动化电网所需设备位置，并有全封闭带铅封装置；

The JP cabinet inside is divided into a total incoming room, a metering room, a distribution outgoing room, and a reactive compensation room, and all rooms are relatively independent. Reserve the equipment position required in the metering room for the automatic grid, with a total enclosed lead seal device;

3.JP柜用新型防雨锁，计量室单独设锁。

Equip the JP cabinet with a new rain-proof lock, and the metering room is locked individually.

工作条件 Working conditions

- | | |
|---------------------------|--|
| 1. 环境温度：-40℃~+55℃ ； | 1.Environment temperature: -40℃~+55℃； |
| 2.海拔高度：不高于2000m； | 2.Altitude: No more than 2000m； |
| 3.相对湿度：日平均值≤95%，月平均值≤90%； | 3.Relative humidity: Daily average ≤ 95%, monthly average ≤ 90%； |
| 4.地震烈度：不超过8度； | 4.Earthquake intensity: No more than 8 degrees |
| 5.安装场所：无腐蚀，无剧烈震动和冲击的户内场所； | 5.Installation site: indoor places with no corrosion, severe vibration and pound; |
| 6.超出正常使用条件时，由用户与本公司协商。 | 6.If the condition has exceeded the normal use, the user can negotiate with our company. |

订货须知 Instruction of Order

- | | |
|-----------------------------|---|
| 订货时需提供下列资料： | The following documents shall be provided when ordering: |
| 1.方案编号； | 1.Scheme number; |
| 2.变压器容量、馈电路数、补偿容量、电容器分组要求； | 2.Grouping requirements for transformer capacity, number of feed circuits, compensation capacity, and capacitors; |
| 3.对控制器、投切开关、电能表、箱体材质和颜色的要求； | 3.Material and color requirements on controllers, switching switches, energy meters, and cabinets; |
| 4.是否加装漏电保护功能。 | 4.Whether to install leakage protection function. |

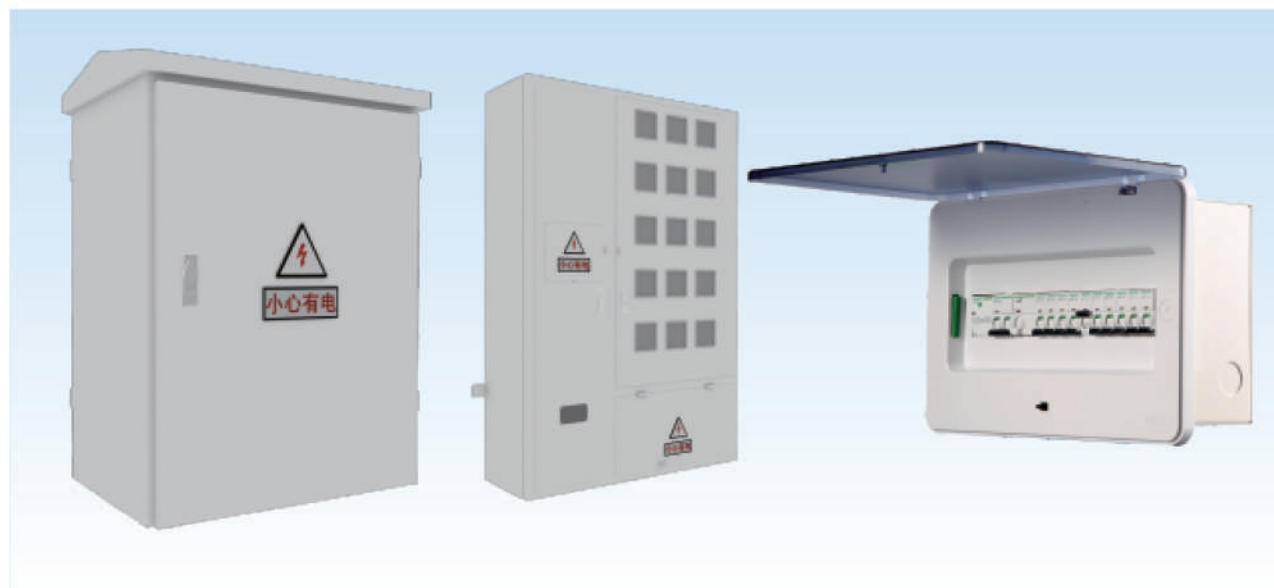
技术参数 Technical Parameter

项目 Project	单位 Unit	参 数 Parameter
额定电压 Rated voltage	V	AC400
额定频率 Rated frequency	HZ	50
辅助电路额定电压 Rated Voltage of Auxiliary Circuit	V	AC220V AC380V
额定电流 Rated current	A	≤630
变压器容量 Transformer capacity	KVA	30~400
柜体防护等级 protection level of cabinet		IP54



低压配电箱KCM

Low Voltage Distribution Box KCM



产品概述 >> Product overview

配电箱分动力配电箱和照明配电箱，是配电系统的末级设备。广泛应用于工矿企业，民用建筑，学校及机关等场所。

The distribution box can be divided into power distribution box and lighting distribution box, which are the last stage equipment of the power distribution system. It is widely used in industrial and mining enterprises, civil buildings, schools and institutions and other sites.

产品特点 >> Product Features

配电箱具有体积小、安装简便，技术性能特殊、配置功能独特、不受场地限制，应用比较普遍，操作稳定可靠，空间利用率高。配电箱是按电气接线要求将开关设备、测量仪表、保护电器和辅助设备组装在一起，构成低压配电装置。

The distribution box has the characteristics of small size, simple installation, special technical performance, unique configuration function, no site limitation, common application, stable and reliable operation, and high space utilization. According to the electrical wiring requirements, the distribution box assembles the switchgear, measuring instrument, protective apparatus and auxiliary equipment to constitute a low-voltage power distribution device.

工作条件 >> Working conditions

- | | |
|----------------------------|--|
| 1. 环境温度：-40℃~+55℃； | 1.Environment temperature: -40℃~+55℃; |
| 2. 海拔高度：不高于2000m; | 2.Altitude: no more than 2000m; |
| 3. 相对湿度：日平均值≤95%，月平均值≤90%; | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4. 地震烈度：不超过8度; | 4.Earthquake intensity: no more than 8 degrees |
| 5. 安装场所：无腐蚀，无剧烈震动和冲击的户内场所; | 5.Installation site: indoor places with no corrosion, severe vibration and pound; |
| 6. 超出正常使用条件时，由用户与本公司协商 | 6.If the condition has exceeded the normal use, the user can negotiate with our company. |

低压变频器控制柜

Low-voltage Frequency Converter Control Cabinet



产品概述 >> Product overview

变频器控制柜（变频器电控柜/电气控制柜）是由内装的变频器加外围的控制、保护、显示等电气元件和柜体组成的，是对三相交流电动机（包括风机，泵）进行变频调速控制的交流拖动装置和节能装置。可广泛应用于冶金、化工、石油、供水、矿山、建材、等各个领域。

Frequency converter control cabinet (frequency converter electric control cabinet or electric control cabinet) is composed of a built-in frequency converter, cabinet enclosure and peripheral electrical components, which are used for control, protection, display. It serves as an AC drive device as well as an energy-saving device to convert frequency and control speed for three-phase AC motors (including fans, pumps). Frequency converter control cabinet can be widely used in metallurgy, chemical industry, petroleum, water supply, mining, building materials, and other fields.

产品特点 >> Product Features

1. 电源切换与保护 Power switching and protection

变频柜中设有低压塑壳断路器与进线电源相连，除能完成接通和分断电路外，可对电路和变频器发生的短路，过载进行保护，并可在维护时切断电源；

Inside the low-voltage frequency converter control cabinet, the low-voltage molded case circuit breaker is connected to the incoming power supply, so that in addition to the connection and disconnection of the circuit, the short-circuited and overloaded protection of the circuit and the frequency converter can also be triggered, and the power can be cut off during maintenance.

2. 启、停控制功能 Start/Stop control function

变频柜面板上设置变频启动，变频停止按钮，用于变频装置的运行控制，便于现场操作；

The start button and the stop button are set on the frequency converter cabinet panel, which is used for the operation control of the frequency conversion device, which is convenient for on-site operation.



3.频率（速度）调整 Frequency(Speed) modulation and control

变频柜面板上设置频率调整电位器，可以很方便的手动调节变频器的输出频率，用以控制电机转速；

The frequency adjustment potentiometer is also set on the panel of the frequency converter cabinet, which is convenient to adjust the output frequency of the converter manually to control the motor speed.

4. 工作状态的监测 Monitoring of working conditions

变频柜面板上设置电压表、电流表、频率表和各种指示灯，如电源指示、报警指示、运行指示、工频指示，实现对变频器输入电压、输出电流、输出频率和各种工作状态的监测；

The voltmeter, ammeter, frequency meter and various indicators, such as power indicators, alarm indicators, operation indicators and power frequency indicators, are all set on the panel of the converter cabinet to monitor the input voltage, output current, output frequency and various working states of the converter.

5. 工频与变频切换 Switch between variable frequency and power frequency

工频与变频工作互为备用，用户可选择有备用工频切换的变频柜，当变频器出现故障时，通过自动控制回路将电动机切换至工频电源（此方式可选择手动、自动，工频启动装置大于15KW用软启动器实现）；

The variable frequency and the power frequencyare mutually standby. Users can select the frequency converter cabinet with the option to switch to power frequency. When converter fault occurs, the motor is switched to the power frequency through the automatic control loop (This can be selected either manually or automatically. If the starting device of power frequency is over 15KW, then a soft starter should be used).

6. 多种控制功能 Multiple control functions

可根据系统工况在变频柜面板上设置多种控制按钮和指示灯，如正转、反转、电机增速、电机减速、点动正转、点动反转、手动/自动、紧急停止、变频/工频、PLC控制、触摸屏等；

Various control buttons and indicators can be set on the converter cabinet panel according to system conditions, such as forward rotation, reverse rotation, motor speed increase, motor speed reduction, forward jog, reverse jog, manual or automatic, emergency stop, variable frequency or power frequency, PLC control, touch screen, etc.

7. 加装外围设备 Install peripheral equipment

根据工况需要可在变频柜内安装交流输入电抗器、输出电抗器、直流电抗器及滤波器、制动单元、制动电阻、接触器、中间继电器、热继电器、可编程控制器（PLC）、可编程操作终端（GOT）、电度表、散热风扇等。

AC input reactor, AC output reactor, DC reactor and filter, brake unit, braking resistor, contactor, intermediate relay, thermal relay, programmable controller (PLC), programmable operation terminal (GOT), watt-hour meter, cooling fan can be installed in the converter cabinet according to the working conditions.

8.安全防护 Security and protection

将变频器安装在变频柜内，可以减少环境污染，减少触电危险，起到较好的防护作用。

The frequency converter is installed in the frequency converter cabinet, which can reduce environmental pollution as well as the risk of electric shock and can also play a better role in protection.

9.整齐美观 Neat and beautiful

将变频器安装在变频柜中，并与其他低压配电柜的尺寸相同，颜色一致，保持配电设施与控制装置的协调，整齐，美观。

The frequency converter is installed in the frequency inversion cabinet, and has the same size and color with other low-voltage power distribution cabinets, so as to keep the distribution facilities and control devices coordinated, neat and beautiful.

10.变频柜柜体结构 Frequency converter cabinet structure

采用封闭柜式结构，防护等级一般为IP20，IP21,IP30等，采用型材骨架，表面涂敷喷塑，且容易并柜安装，上端可配置母线，变频器面板外引至柜体外表可直接操作，根据需要可设置就地和远程控制或PC/PLC通讯控制,具有很直观的各种显示功能。

The frequency converter control cabinet has adopted closed cabinet structure, and the protection degree is generally IP20, IP21, IP30, etc. It has also adopted framework materials. The surface is coated with spraying plastics and easy to install combined cabinets. The upper end can be configured with busbars, and the converter panel can be directly operated to the external surface of the cabinet. Local and remote control or PC/PLC communication control can be set as needed, so is has a variety of intuitive display functions.

11. 按用途的不同和功能分类 Classification by usage and function

变频器柜根据用途的不同和功能的各异其差别也很大，一般根据工矿要求定制。目前比较定型的有：恒压供水变频柜（1控1，1控2，1控3等），自动扶梯变频控制柜，中央空调循环水泵变频柜, 风机变频节能柜等。

Frequency converter cabinets vary greatly based on the application and function, and are generally customized according to specific industrial and mining requirements. At present, some types are approved, such as constant-pressure water supply frequency converter cabinet (one converter cabinet controls 1 pump, 2 or 3 pumps, etc. simultaneously.), escalator frequency converter control cabinet, central air conditioning circulating water pump frequency converter cabinet, fan frequency converter energy-saving cabinet.

工作条件 Working conditions

- | | |
|---------------------------|---|
| 1. 环境温度：-5℃~+40℃； | 1.Environment temperature: -5℃~+40℃; |
| 2.海拔高度：不高于1000m; | 2.Altitude: no more than 1000m; |
| 3.相对湿度：日平均值≤95%，月平均值≤90%； | 3.Relative humidity: daily average ≤ 95%, monthly average ≤ 90%; |
| 4.地震烈度：不超过8度； | 4.Earthquake intensity: No more than 8 degrees |
| 5.安装场所：无腐蚀，无剧烈震动和冲击的户内场所； | 5.Installation site: indoor places without corrosion, violent vibration and impact; |
| 6.超出正常使用条件时，由用户与本公司协商。 | 6.If it exceeds the normal use conditions, the user can negotiate with our company. |

订货须知 Instruction of Order

- | | |
|--|---|
| 订货时需提供如下资料： | The following documents shall be provided when ordering: |
| 1.电机具体参数； | 1.Specific parameters of the motor; |
| 2.电机的负载特性类型； | 2.The type of load characteristics of the motor; |
| 3.电机启动方式； | 3.Starting modeof the motor; |
| 4.工作环境，如现场的温度、防护等级、电磁辐射等级、防爆等级、配电具体参数； | 4.Working environment, such as the spot temperature, protection degree, electromagnetic radiation degree, explosion-proof degree, power distribution specific parameters; |
| 5.控制柜安装位置 | 5.Installation location of the control cabinet. |



SVR Feeder Automatic Voltage Regulator Distribution Network Voltage Regulator Selection

China Electric Valley·Weifan Electric Supply Chain

Tel: +86312-7517886

WhatsApp/Tel: +86138322752

Address: China Electric Valley·Baoding Hebei

Website: www.electricvalley.net

Email: sales@electricvalley.net



WhatsApp



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Company Profile

SVR Feeder Automatic Voltage Regulator

Selection Principles

SVR installation point selection

SVR capacity selection

SVR voltage regulation range selection

Company Profile

Baoding Weifan Electric Technology Co.,Ltd. Was established in 2012, relying on the technology of North China Electric Power University, specializing in there search and development, Production and sales of electrical equipment to improve power grid quality, energy saving and loss reduction.

WEIFAN Company boasts a top-tier R&D team and independent intellectual property rights. It has independently developed a range of products, including automatic voltage regulators for feeders, intelligent reactive power compensation systems, and harmonic mitigation devices, earning over twenty national patents. Many of these products have filled gaps in the domestic market and have been recognized as key new products at the national level, part of the National Torch Program, and major scientific and technological innovation and industrialization projects at both provincial and municipal levels.

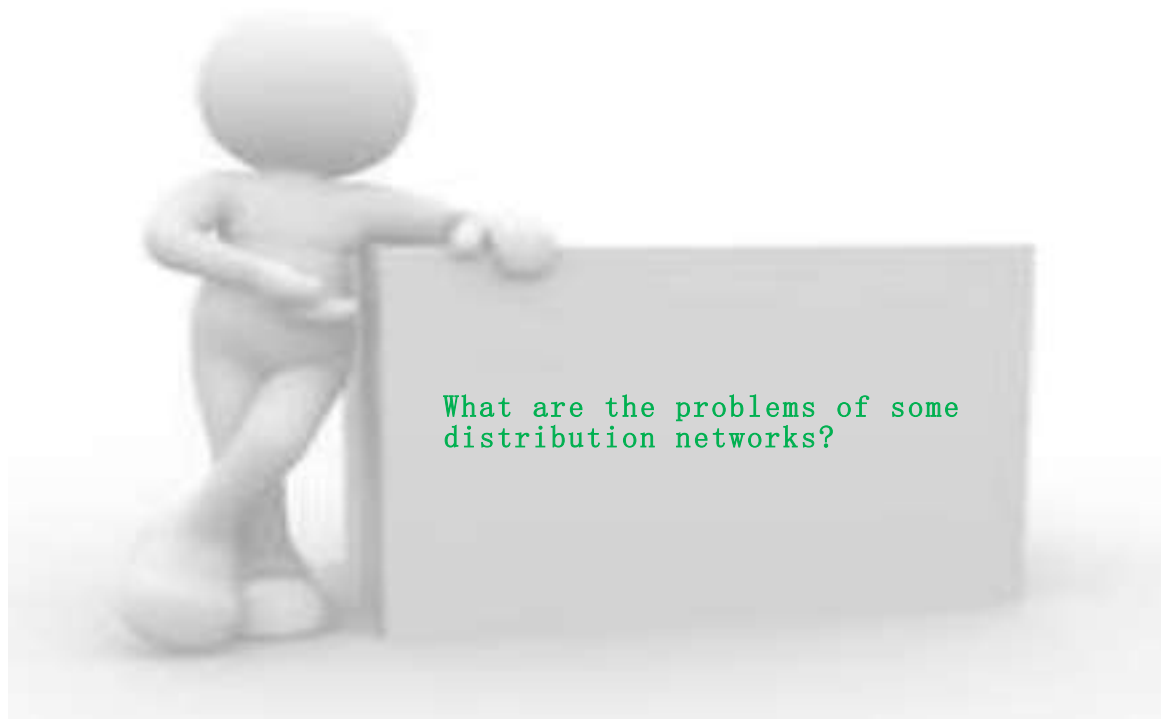
WEIFAN Company Voltage Regulator Division is the largest producer of feeder automatic voltage regulators and intelligent reactive power compensation equipment in China. It is the only company that has transferred patent technology to dozens of peers and provided technical guidance. It is one of the few companies in China capable of offering comprehensive solutions and equipment. WEIFAN Company is a leading enterprise in improving grid quality, promoting energy conservation, and reducing losses.

WEIFAN has established a quality assurance system in accordance with ISO9001; established a "product file, quick service" after-sales service system and team to provide users with reliable products and quality services, and contribute to the construction of green power grid, energy saving and loss reduction.

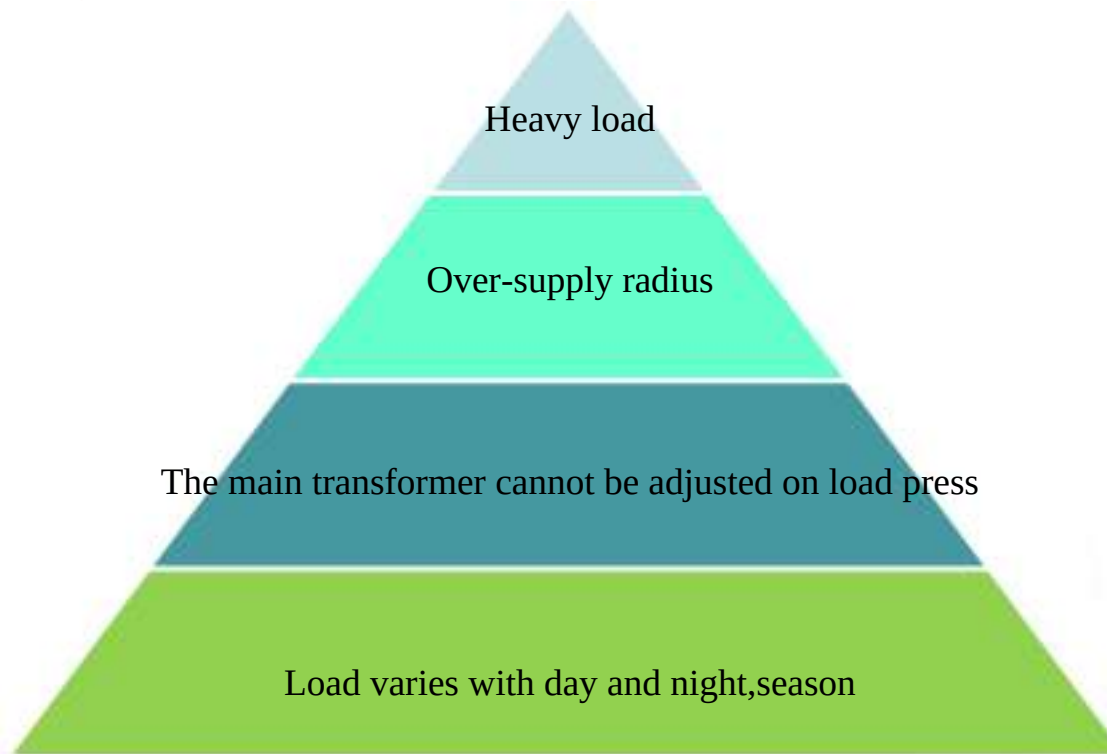
The company attaches great importance to the construction of the test station and the purchase of inspection equipment to lay a foundation for the research and development and production of products.



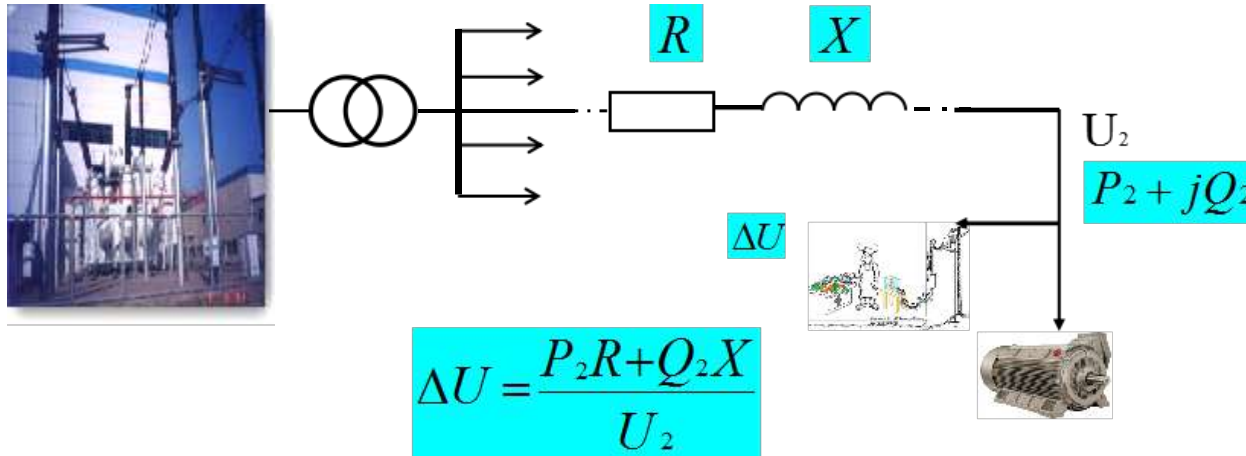
I. Feeder automatic voltage regulator



Problems existing in part distribution network:



The main factor of voltage fluctuation



ΔU : Line voltage loss

U_2 : Terminal voltage

P_2 : Terminal load active power

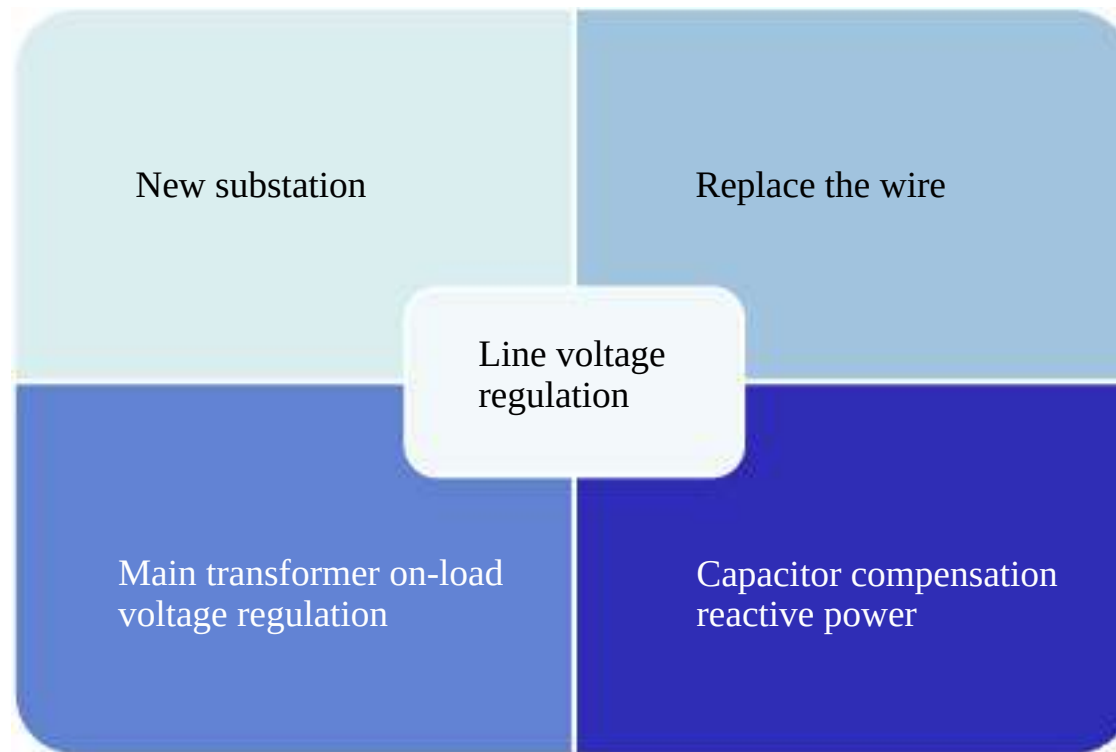
Q_2 : Terminal load reactive power

R : Line resistance

X : Line reactance

Commonly used voltage regulation method

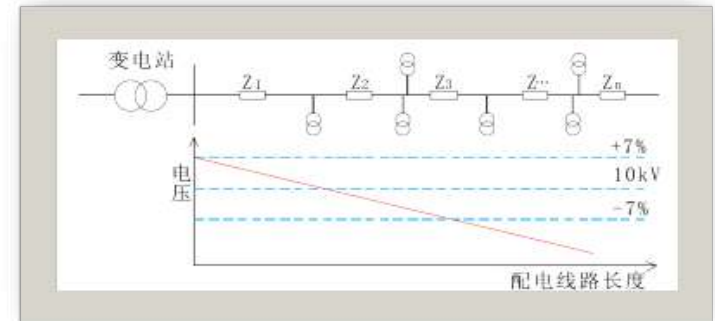
Common voltage regulation methods



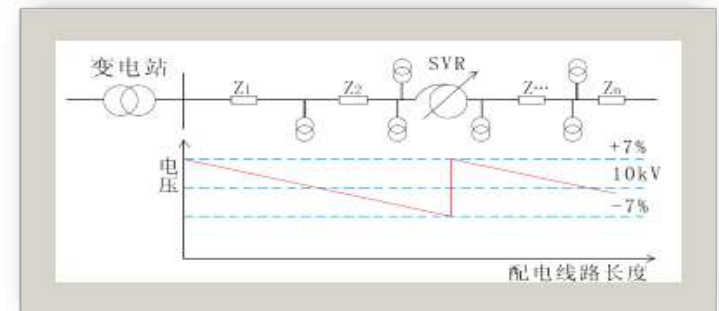
SVR Brief Introduction

SVR is an automatic tracking of the input voltage three phases that change to ensure the stability of their output voltage Self-coupling voltage regulator, which can be widely used In 6kV,10kV and 35kV power supply systems, the input voltage is within a range of 20% automatically adjust.

In short, the SVR feeder automatic voltage regulator is just that It is a high voltage and large capacity voltage regulator!

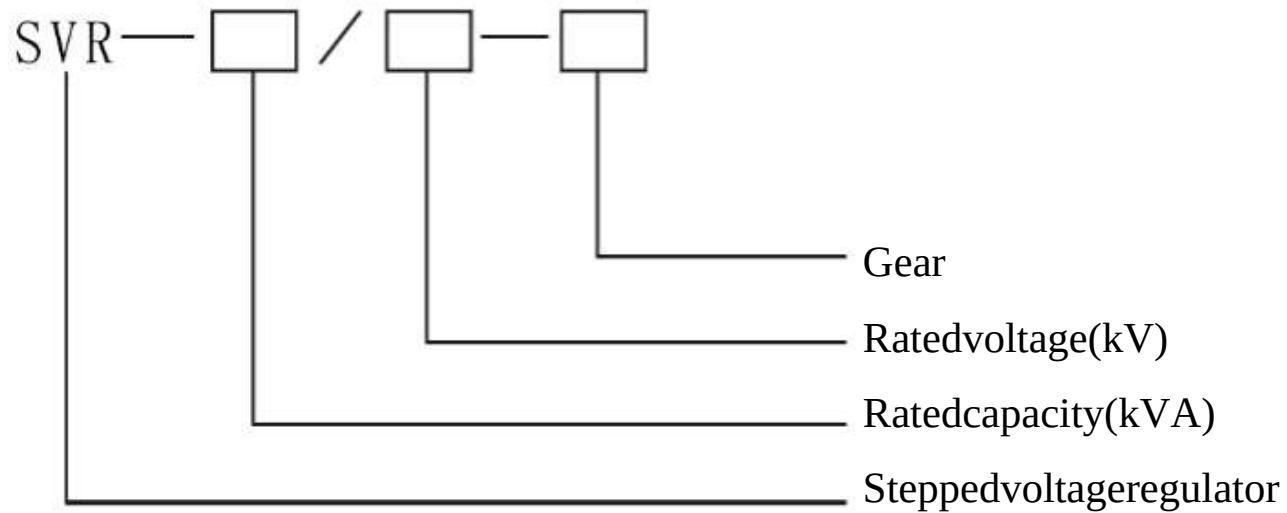


Before pressure adjustment

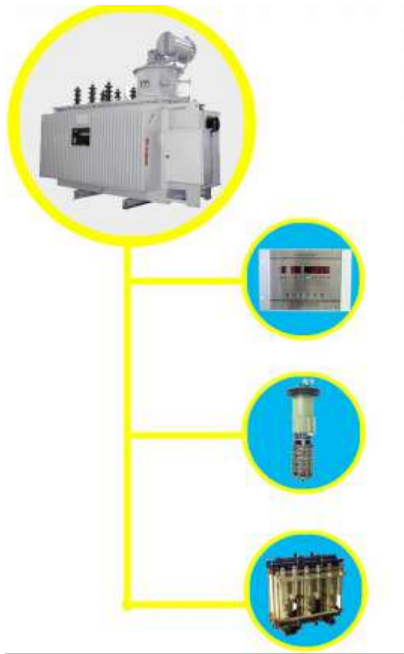


After pressure adjustment

SVR Model Description



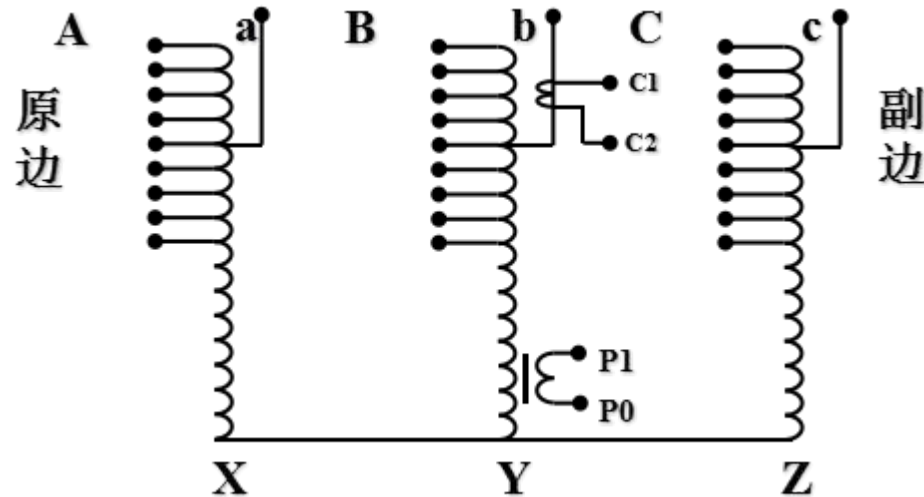
SVR regulator structure



◆ intelligent controller

◆ on load tap changer

◆ Transformer body with autotransformer structure

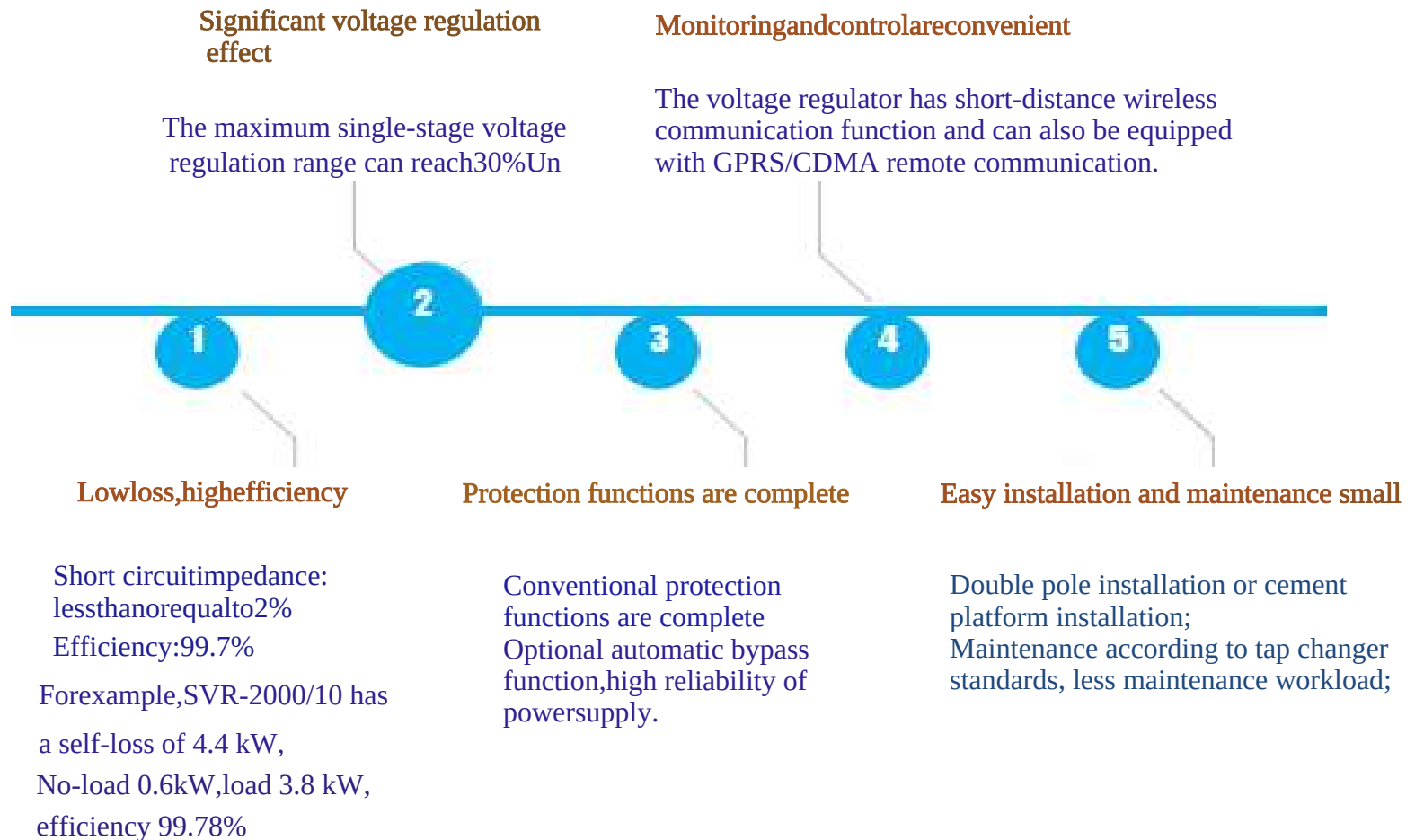


$$U_2 = \frac{N_2}{N_1} U_1$$

SVR regulator body electrical schematic diagram

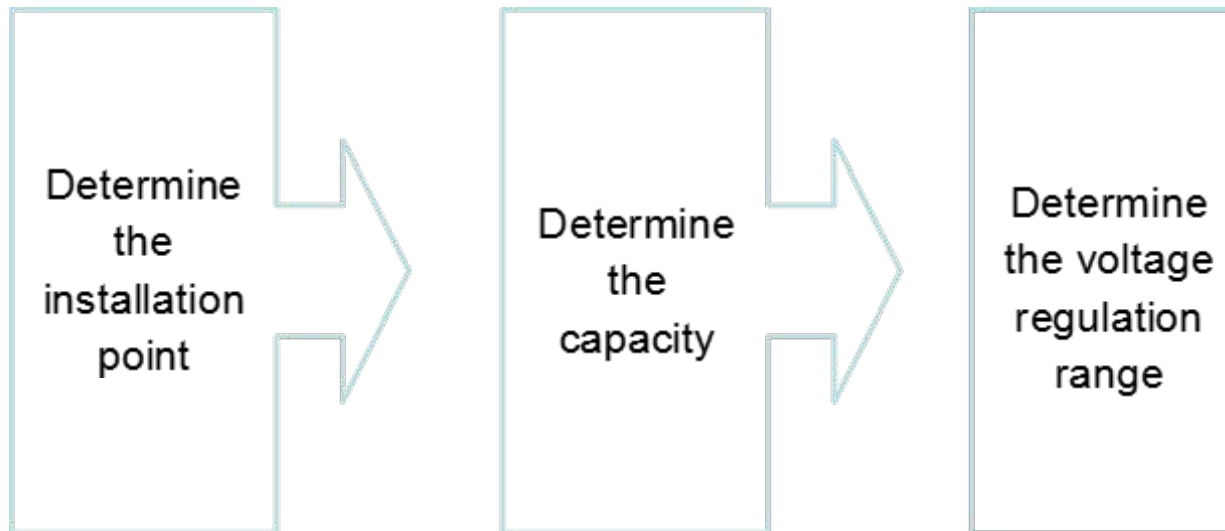
Working principle: The controller changes by controlling the change of the on-load tap changer position. The ratio of input and output coils is changed to adjust the output voltage.

Product features



II. SVR selection

Three steps for equipments election:



Selection of installation points for SVR

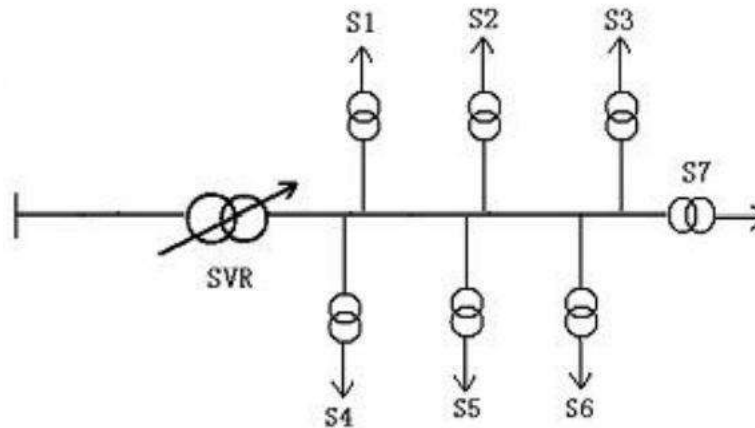
(2) Select according to the actual local voltage drop

(3) Select according to the voltage drop theory

(4) Consider the geographical location and should be easy to transport and install

The capacity of the SVR is determined by multiplying the sum of the capacities of the distribution transformers at the SVR installation site by the margin factor. (315kVA,500kVA,1000kVA,2000kVA,3000kVA,4000kVA、5000kVA、6300kVA、8000kVA、12500kVA).

The power distribution circuit is shown in the figure below:



The capacity of SVR should be: $S = k \times (S_1 + S_2 + \dots + S_7)$

S - capacity of voltage regulator, in kVA;

k - margin factor, generally 1.1-1.3;

The capacity of each distribution transformer after S1...S7 installation point, in kVA;

For example: There are 4 distribution transformers at the end of a line, with capacities of 500 kVA, 300 kVA, 300 kVA, and 400 kVA respectively. The actual selected capacity is:

$$S = 1.3 \times (500 + 300 + 300 + 400) = 1950 \text{ kVA}$$

Based on the above calculation results and referring to the SVR standard capacity, the user can choose an SVR with a capacity of 2000 kVA.

Conventional SVR has three voltage regulation ranges: -10% to +10%, -5% to +15%, and 0% to 20%.

The voltage at the installation point fluctuates between 9 kV and 11 kV... The voltage regulation range is $\pm 10\%$

The voltage at the installation point fluctuates between 8.5 kV and 10.5 kV... The voltage regulation range is -5% to 15%

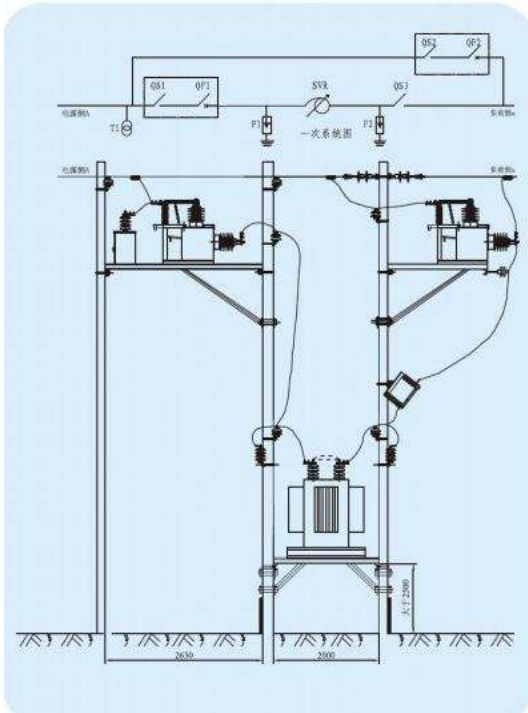
(3) The voltage at the installation point is as low as about 8 kV... The voltage regulation range is 0 to 20%

(4) For some lines with heavy loads, low voltage, no large motors and other loads that frequently start and stop, when the SVR with a voltage regulation range of 20% cannot meet the requirements, two-level voltage regulation can be used, that is, two SVRs can be installed on one line.

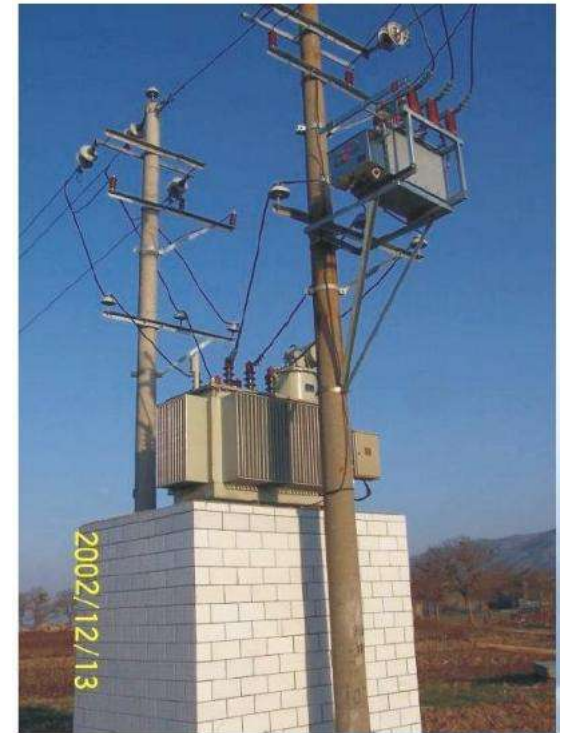
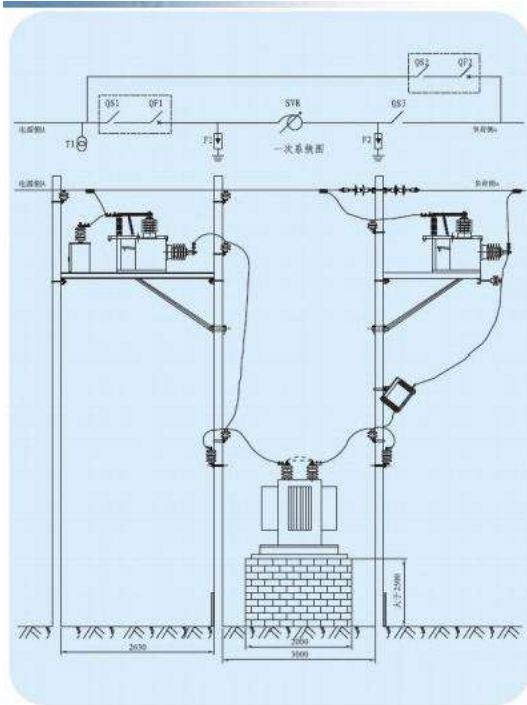
III. Installation mode of SVR

- SVRs of 2000kVA and below are installed with double poles;
- SVRs of 2000kVA~6300kVA are installed on a cement platform with dimensions of 2500mm (length) × 2000mm (width) × 2500mm (height);
- SVRs above 6300kVA are installed on the ground, requiring a foundation and a fence.

SVR of 2000kVA and below:



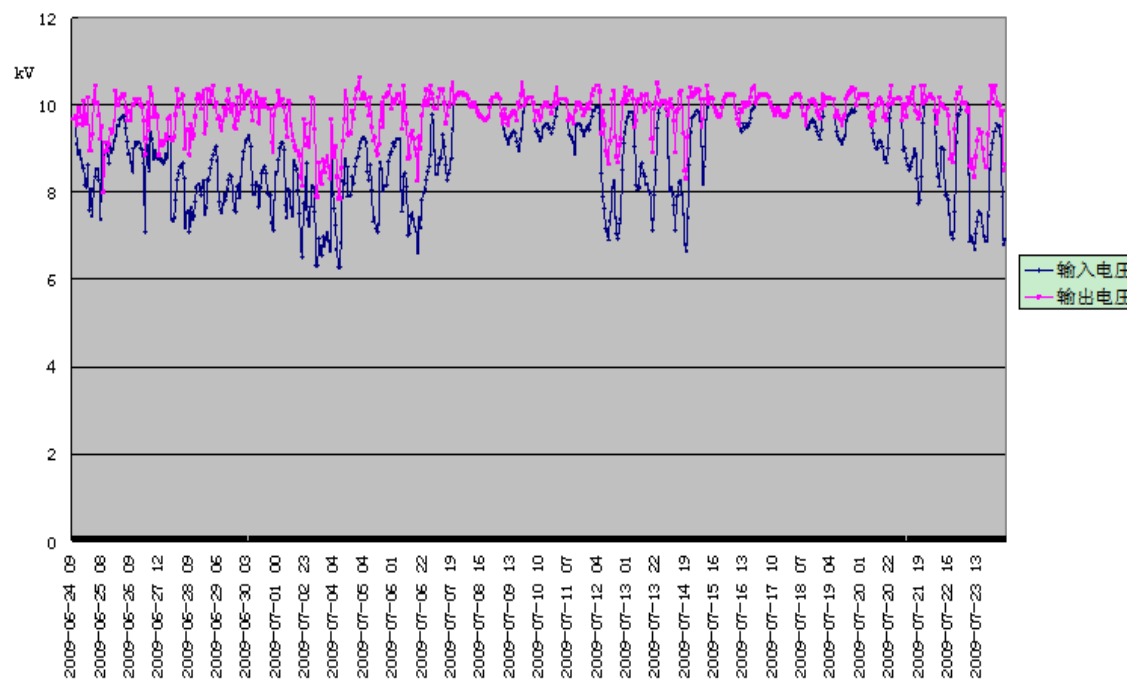
3000kVA~6300kVA SVR:



SVR with 6300 kVA or more



IV. Application cases



Comparison between the input voltage and output voltage of the voltage regulator