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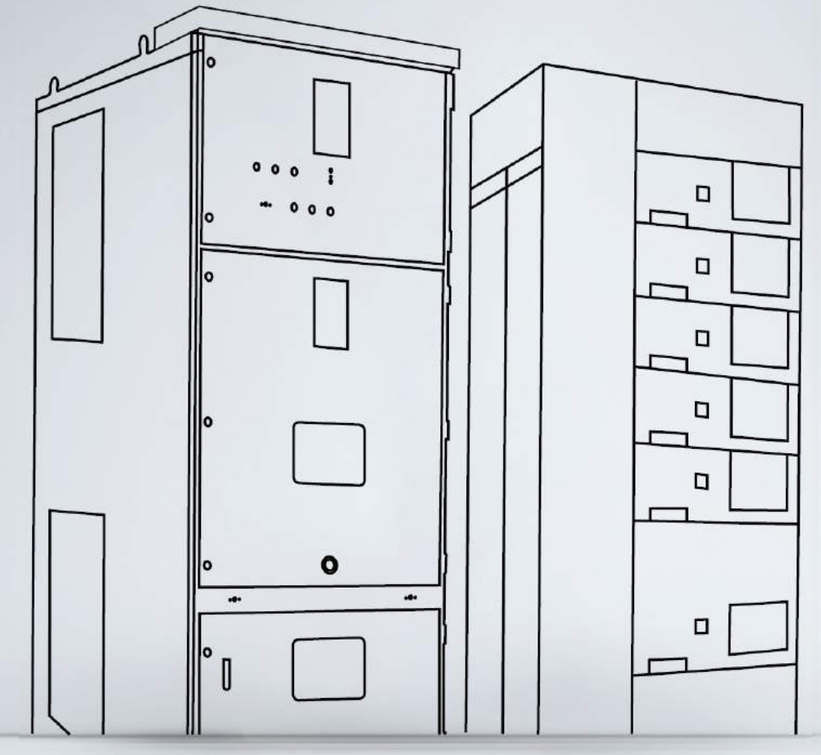
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LUGAO

ZHEJIANG
Lugao Power Co.,Ltd.
Product Selection



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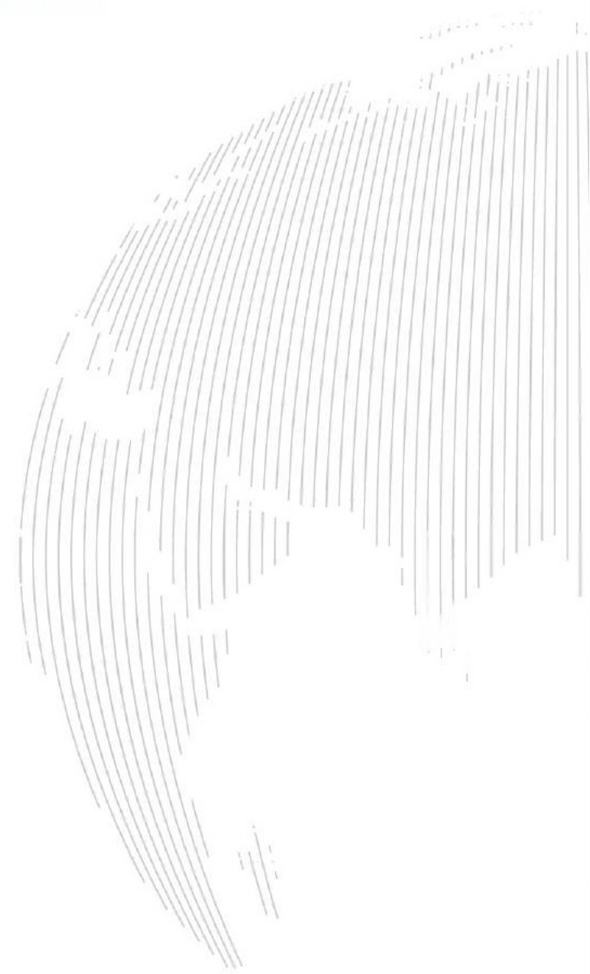
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Lugao Power Co.,Ltd.

Product Selection

Honesty,innovation,forgeahead,steadydevelopment.



Lugao Power Co.,Ltd.



MAJOR ABSORBED INNOVATE

ENTERPRISE CULTURE

LUGAO

People-oriented, honesty-based, excellence-oriented and innovation-oriented

Be loyal, dedicated and realistic

Customer First and Credible Management

Actions light up oneself, details determine quality

Fighting for Innovation



LUGAO

Enterprise introduction

Lugao:

Lugao Power Co.,Ltd.is an enterprise specializing in R&D,design, production and sales of high-voltage power tra nsmission and distribution equipment.The sea is wide and the birds can fly with the fish jumping"LuGao"! After years of development andinnovation,Lugaopeople have continuously improved andintroduced advanced produ ction equipment and excellent testing methods, and always adhere to the three high purposes of "high technolo gy, high quality, high service".series and various specifications of product structures, basically covering thefield o f high and medium voltage transmision and distribution systems.

The main proctcts are distfthution swich ocitrol equipment, complste ssis of alectfeal equioment, hich and ow vcleage electricalapplances and equpment, wctey used n utan and nural power gid transtormaton, transmieson and distrtuton engineering, metallurgy, chemical, mining, rallvay, construction and lwing community power engineering projects.

The company has consistently adhered to the "ree corporate image, create a qualty brand" business philosophy. With the purpose of "harmony, hard work, pioneering and innovation". Intoday's economic glohalization,facing the opport unttes and chalenges, weare guited by tne idea of “ geting nch, thinking, and thning. ” Lugao Powe is wilng to go hand in hand with the vast number of new and old customers to create brillance and make new contributons to the construction and development of the power technolcgy inausty.



LUGAO

Quality oriented
HONEST MANAGEMENT

Quality oriented, honest management, the combination of technology and equipment creates a solid quality foundation for liugao. Stable staff team, fine production management, standardized operation process, to achieve efficient and stable production. A perfect quality management process has been established, and all links are closely monitored to ensure the stability and controllability of product quality. We are committed to building a first-class model in the electrical industry.

MANUFACTURING
ENGINEERING

If a worker wants to do a good job, he must first sharpen his tools. Excellent equipment is a reliable guarantee for improving production and quality. Since the establishment of the factory, "people-oriented, moral first, quality-oriented, trustworthy enterprise" mission and "customer absolute satisfaction" business philosophy, with a responsible attitude to society and users, relying on high-quality talents, strong technology, excellent equipment, complete varieties and strict management, the company has continuously launched medium and high-voltage electrical products with domestic advanced level.













Respecting promise and keeping promise, operating in the right way, striving for perfection, coexistence and win-win situation

We have been committed to quality, service, brand to consolidate and expand the market. Actively promote brand marketing, service marketing, promote integrity management, provide customers with high-quality and low-cost high-end products and excellent services, calmly respond to global economic integration, and better participate in international competition.

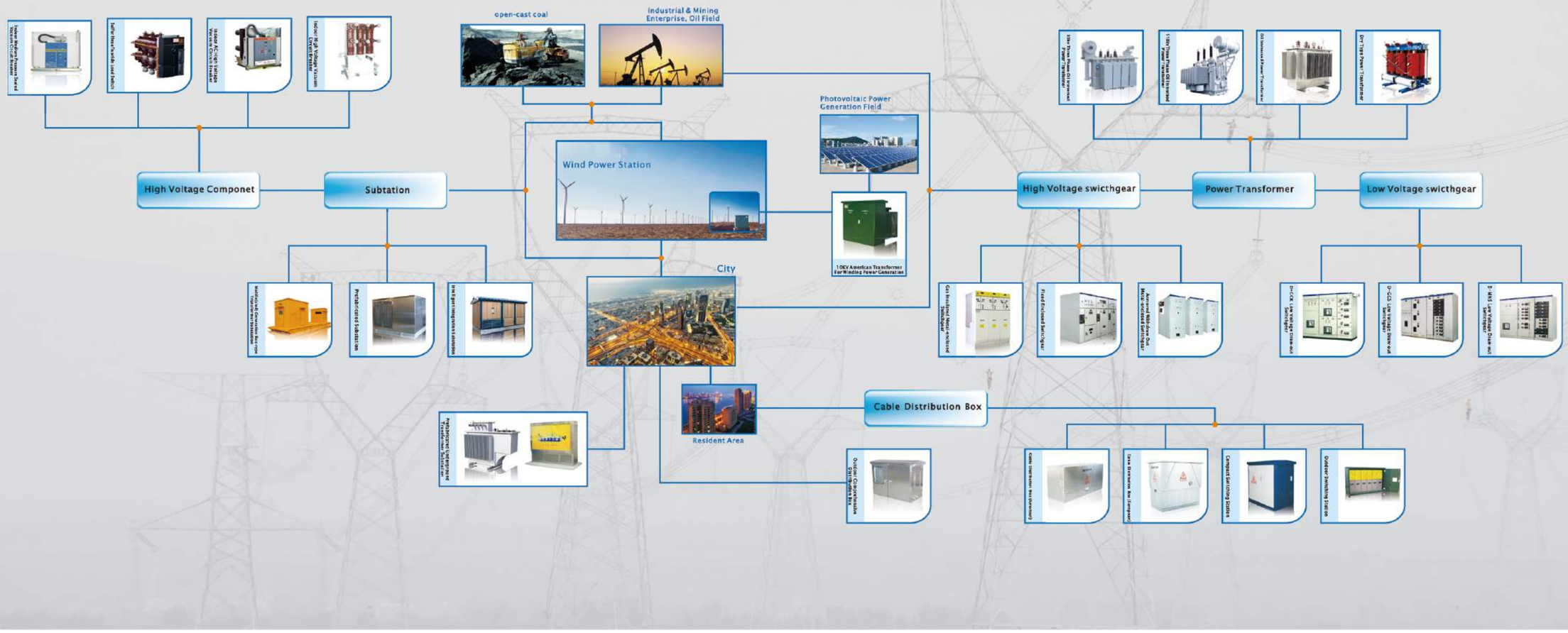


The continuous expansion of
the enterprise pattern,
Let the development blueprint come true!

Lugao Power Co.,Ltd.

LUGAO

MAJOR ABSORBED INNOVATE



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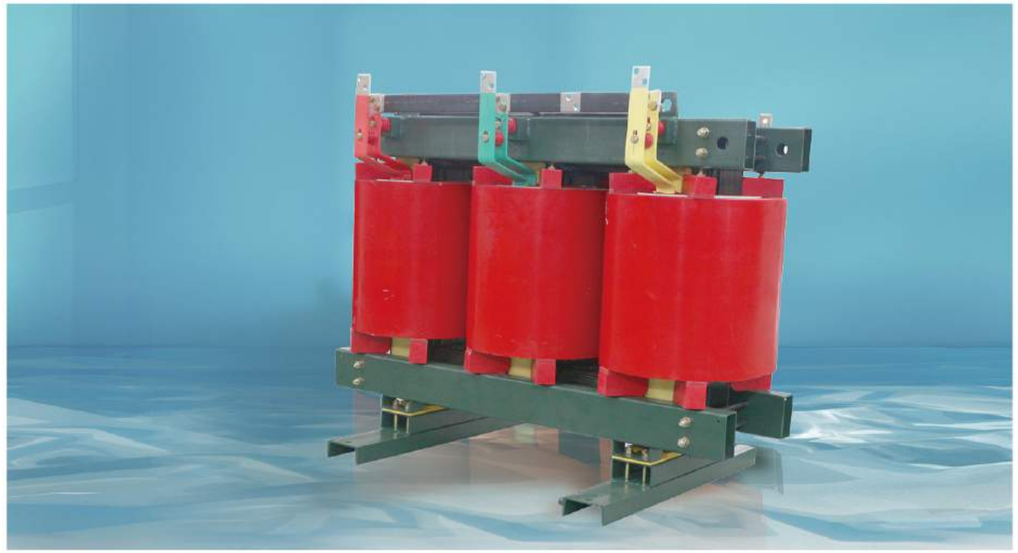
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SCB10 Dry Type Transformer



Features of Products

Dry-type transformers are widely used in local lighting, high-rise buildings, airports, wharf CNC machinery and other places. Simply speaking, dry type transformers refer to transformers in which iron cores and windings are not immersed in insulating oil. Cooling methods are divided into natural air cooling (AN) and forced air cooling (AF). During natural air cooling, the transformer can operate continuously for a long time at rated capacity. When forced air cooling occurs, the output capacity of the transformer can be increased by 50%. Suitable for intermittent overload operation or emergency overload operation; Since the load loss and impedance voltage increase greatly during overload and are in non-economic operation, it should not be kept in continuous overload operation for a long time.

Standard

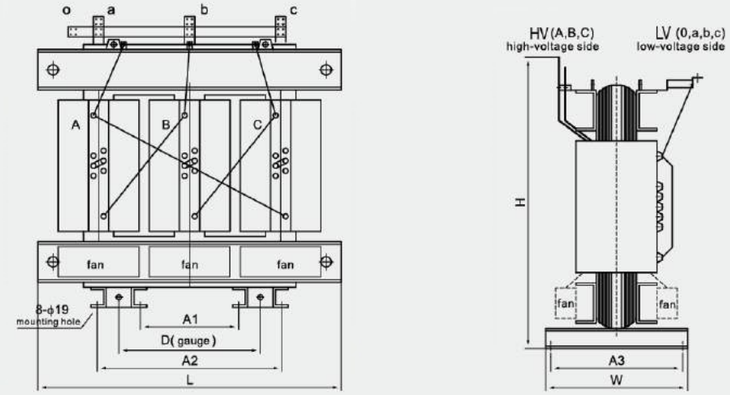
Full complied with GB/T 10228-2008; GB 1094.11-2007, IEC60076 STANDARDS

Transformer Model Description

S C (B) 11 - □ / □

- Rated voltage (high voltage kV)
- Rated capacity (kVA)
- Characteristic code
- Low-voltage foil coil
- Solidification forming (epoxy resin cast)
- Three-phase

SC(B)11 series 11kV resin insulation dry type transformer



SC(B)11 series 11kV resin insulation dry-type transformer technical data

Rated capacity (kVA)	HV/LV	Vector group	Impedance voltage %	Losses (kW)		No-load current (%)	Insulating level	Weight (kg)
				No-load	Load			
10	High Voltage 13.8	Dyn11 or Yyn0	4	0.135	0.305	4.0	F/F	130
20				0.170	0.595	3.5		170
30				0.195	0.705	2.6		330
50				0.270	0.995	2.2		380
63				0.330	1.210	2.2		440
80	13.2			0.370	1.380	2.2		510
100				0.400	.570	2.0		590
125	11			0.470	1.850	1.8		650
160				0.545	2.130	1.8		780
200	10.5			0.625	2.530	1.6		930
250				0.720	2.760	1.6		1040
315	10			0.880	3.470	1.4		1180
400				0.975	3.990	1.4		1450
500	6			1.160	4.880	1.4		1630
630				1.345	5.870	1.2		1900
630	Low Voltage 0.4 0.415 0.433		6	1.300	5.960	1.2		1900
800				1.520	6.955	1.2		2290
000				1.770	8..30	1.1		2700
1250				2.090	9.690	1.1		3130
1600				2.450	11.73	1.1		3740
2000				3.320	14.45	1.0		4150
2500				4.000	17.17	1.0		4810
3150			8	5.140	22.50	0.8		5800
4000				5.960	27.00	0.8		7100

A

LUGAO Oil-immersed transformer series

S11 Series 20kV Distribution Transformer



Features of Products

20kV Distribution Transformers The abbreviation "change" refers to a static electrical appliance in a power distribution system that converts AC voltage and current according to the law of electromagnetic induction to transmit AC power. In some areas, power Transformers with a voltage level below 20 kV are called "distribution Transformers" or "blending" for short. The installation of "matched" places and places is both a substation. Distribution Transformers should be installed on the column or open floor installation.

Standard

GB1094.1-2013; GB1094.2-2013; GB1094.3-2013; GB1094.5-2008; GB/T 6451-2008; GB/T 1094.10-2003; JB/T 10088-2004
IEC60076; SANS 780 STANDARDS

Features of Products

1. Meet or exceeds ANSI.IEC.GB.SANS.Standards
2. Safe Handling, Installation and Operation.
3. Attractive, modern appearance
4. Reasonable Structure
5. Fully-sealed
6. Higher system reliability
7. High security and reliability in operation
8. High capacity of overload and efficiency
9. Robust construction having excellent short circuit and thermal withstand capabilities
10. EVERPOWER Transformers are more efficient by Reduced no-load losses and Reduced load losses

Transformer normal service conditions

1. The height above the sea level is below 1000m;
2. Ambient temperature;
3. Highest air temperature +40°C ;
4. Highest daily average air temperature+30°C ;
5. Highest annual average air temperature +20°C ;
6. Lowest outdoor air temperature -25°C ;

S11 series 20kV distribution transformer technical data

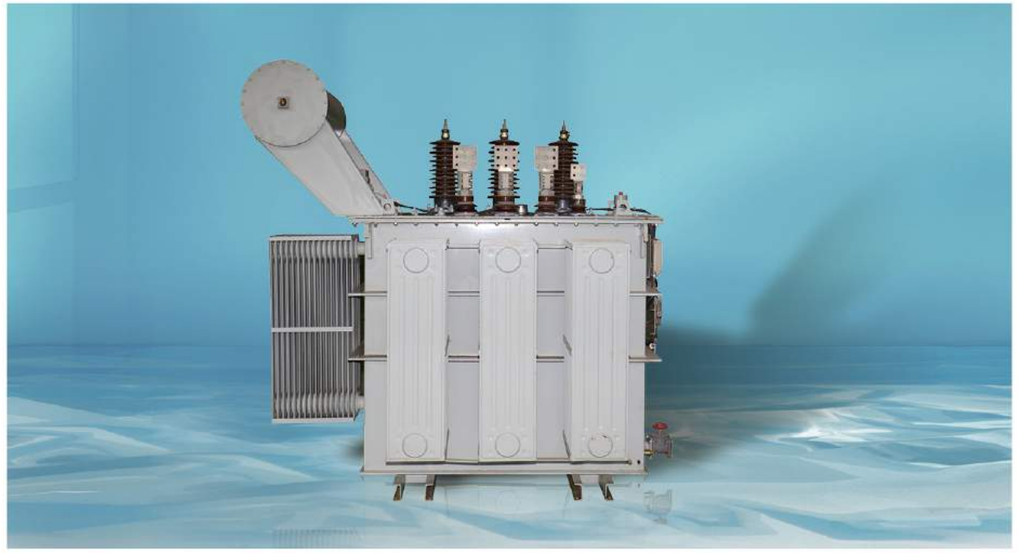
Rated capacity (kVA)	Voltage group (kV)		Vector group	Impedance voltage (%)	Loss(kW)		No-load current (%)	Weight(kg)			(L×B×H)(mm) Outline dimension	Gauge vertical/ horizontal (mm)
	High-voltage	Low-Voltage			No-load	Load		Machine weight	Oil weight	Gross weight		
50	24 22 20 19	0.4 0.415 0.433	Yyno Dyn11 Dyn5	5.5	0.17	1.15	2.0	200	145	465	920×610×1000	450/380
100					0.23	1.92	1.8	330	165	635	920×680×1100	550/450
125					0.27	2.26	1.7	395	185	745	960×780×1120	550/470
160					0.29	2.69	1.6	505	205	885	1160×710×1180	550/520
200					0.34	3.16	1.5	580	225	995	1190×730×1190	550/520
250					0.41	3.76	1.4	695	245	1130	1280×820×1210	650/550
315					0.49	4.53	1.4	745	260	1285	1380×910×1240	650/550
400					0.58	5.47	1.3	865	305	1500	1430×950×1320	650/550
500					0.69	6.58	1.2	985	335	1710	1520×1020×1360	750/600
630					0.83	7.87	1.1	1165	385	2010	1680×1150×1380	850/660
800					0.98	9.41	1.0	1335	415	2315	1810×1280×1430	850/660
1000					1.15	11.54	1.0	1655	515	2985	1840×1290×1540	850/660
1250					1.4	13.94	0.9	1890	630	3460	1850×1300×1730	850/660
1600					1.7	16.67	0.8	2220	710	4015	1920×1350×1790	850/700
2000					2.18	20.43	0.8	2530	730	4425	2020×1770×2040	820/820
2500					2.56	21.85	0.8	3165	795	5260	2080×1800×2130	1070/1070

Note: Tapping range of high-voltage: ±5%, ±2×2.5%; Frequency: 50Hz

LUGAO Oil-immersed transformer series

A

S11 Series 33kV Power Transformer



Features of Products

S11 Series 33kV Power transformer is one of the main equipments in power plants and substations. The function of transformer is not only to raise the voltage and send the electric energy to the electricity-using area, but also to reduce the voltage to all levels of use voltage to meet the needs of electricity utilization. In short, the step-up and step-down must be completed by transformers. In the process of power transmission in the power system, voltage and power losses will inevitably occur. When the same power is transmitted, the voltage loss is inversely proportional to the voltage and the power loss is inversely proportional to the square of the voltage. The transformer is used to increase the voltage and reduce the power transmission loss.

Standard

GB1094.1-2013; GB1094.2-2013; GB1094.3-2013; GB1094.5-2008; GB/T 6451-2008; GB/T 1094.10-2003; JB/T 10088-2004
IEC60076; SANS 780 STANDARDS

Features of Products

1. Meet or exceeds ANSI.IEC.GB.SANS.Standards
2. Safe Handling, Installation and Operation.
3. Attractive, modern appearance
4. Reasonable Structure
5. Fully-sealed
6. Higher system reliability
7. High security and reliability in operation
8. High capacity of overload and efficiency
9. Robust construction having excellent short circuit and thermal withstand capabilities
10. EVERPOWER Transformers are more efficient by Reduced no-load losses and Reduced load losses

Transformer normal service conditions

1. The height above the sea level is below 1000m;
2. Ambient temperature;
3. Highest air temperature +40°C ;
4. Highest daily average air temperature+30°C ;
5. Highest annual average air temperature +20°C ;
6. Lowest outdoor air temperature -25°C ;

S11 series 33/11kV power transformer technical data

Rated capacity (kVA)	Voltage group (kV)		Vector group	Impedance voltage (%)	Loss(kW)		No-load current (%)	Weight(kg)			(L×B×H)(mm) Outline dimension	Auge vertical/ horizontal (mm)
	High-voltage	Low-Voltage			No-load	Load		Machine weight	Oil weight	Gross weight		
200					0.43	3.33	1.5	580	350	1250	1230×1200×1830	660/660
250					0.52	3.96	1.4	665	380	1475	1280×1250×1830	660/660
315					0.61	4.77	1.4	785	440	1640	1310×1270×1920	660/660
400					0.75	5.76	1.3	905	525	1870	1960×830×2010	820/820
500					0.87	6.93	1.2	1060	590	2225	2050×880×2080	820/820
630				6.5	1.04	8.28	1.1	1220	630	2420	2120×1000×2130	820/820
800					1.23	9.9	1.0	1350	700	2780	2290×1120×2150	820/820
1000					1.44	12.15	1.0	1575	775	3290	2380×1140×2250	820/820
1250					1.76	14.67	0.9	1810	880	3845	2420×1220×2370	820/820
1600	38.5	11	Yd11		2.12	17.55	0.8	2190	960	4295	2300×1510×2420	820/820
2000	36	10	Ynd11		2.72	19.35	0.7	2460	1090	4890	2320×1750×2450	820/820
2500	35		Dyn11		3.2	20.7	0.6	3010	1205	5660	2380×1840×2530	1070/1070
3150	34.5	6	Dyn5	7.0	3.8	24.3	0.56	3785	1500	7600	2550×2220×2620	1070/1070
4000	33				4.52	28.8	0.56	4690	1790	8500	2670×2390×2670	1070/1070
5000					5.4	33.03	0.48	5570	2015	9790	2870×2450×2750	1070/1070
6300				7.5	6.56	36.9	0.48	7380	2460	12620	3100×2580×2950	1475/1475
8000					9.0	40.5	0.42	8870	2650	14100	3250×2680×3150	1475/1475
10000					10.88	47.7	0.42	10020	2930	16500	3320×2720×3230	1475/1475
12500				8.0	12.6	56.7	0.4	12880	3710	19780	3410×2950×3410	1475/1475
16000					15.2	69.3	0.4	16120	4280	23950	3520×3180×3570	1475/1475
20000					18.0	83.7	0.4	18580	5230	29600	3730×3560×3990	1475/1475
25000					21.28	99.0	0.32	22970	6370	35350	4110×4120×4220	2040/2040
31500					25.28	118.8	0.32	27600	7740	41900	4760×4570×4390	2040/2040

Note: It can supply voltage regulating range of ±5% or ±2×2.5% for high-voltage of transformer

LUGAO Dry-type transformer Series

SCB11 Series 33Kv Dry Type Transformer



Features of Products

33kV Dry-type transformers are widely used in local lighting, high-rise buildings, airports, wharf CNC machinery and other places. Simply speaking, dry-type transformers refer to transformers in which iron cores and windings are not immersed in insulating oil. Cooling methods are divided into natural air cooling (AN) and forced air cooling (AF). During natural air cooling, the transformer can operate continuously for a long time at rated capacity. When forced air cooling occurs, the output capacity of the transformer can be increased by 50%. Suitable for intermittent overload operation or emergency overload operation; Since the load loss and impedance voltage increase greatly during overload and are in non-economic operation, it should not be kept in continuous overload operation for a long time.

Standard

Full complied with GB/T 10228-2008; GB 1094.11-2007, IEC60076 STANDARDS

Transformer Model Description

S C (B) 11 - □ / □

- Rated voltage (high-voltage kV)
- Rated capacity (kVA)
- Characteristic code
- Low-voltage foil coil
- Solidification forming (epoxy resin cast)
- Three-phase

SC(B)11 series 33kV cast resin insulation dry-type transformer technical data

Rated capacity (kVA)	HV/LV	Vector group	Losses (kW)		No-load current (%)	Impedance voltage (%)	Insulating level	Weight (kg)
			No-load	Load				
50	High Voltage 33~38.5 Low Voltage 0.4 0.415 0.433	Dyn11 or Yyn0	0.500	1.500	2.8	6	F/F	610
100			0.700	2.200	2.4			915
160			0.880	2.960	1.8			1200
200			0.980	3.500	1.8			1400
250			1.100	4.000	1.6			1600
315			1.310	4.750	1.6			1800
400			1.530	5.700	1.4			2200
500			1.800	7.000	1.4			2500
630			2.070	8.100	1.2			2900
800			2.400	9.600	1.2			3500
1000			2.700	11.00	1.0			4200
1250			3.150	13.40	0.9			4900
1600			3.600	16.30	0.9			5800
2000			4.250	19.20	0.9			6600
2500			4.950	23.00	0.9			7500

SC(B)11 series 33kV cast resin insulation dry-type transformer outline dimension

Rated capacity	Outline dimension(mm)							Outline dimension with protective casing(mm)							
	L	W	H	D	A1	A2	A3	L	W	H	D	e	f	g	h
50	1000	870	1160	550	550	550	820	1700	1400	1300	550	1120	1160	580	220
100	1100	870	1350	550	550	550	820	1800	1400	1500	550	1300	1350	580	220
160	1500	870	1380	820	820	820	820	2200	1500	1600	820	1320	1380	515	260
200	1530	870	1420	820	820	820	820	2250	1500	1650	820	1400	1420	520	265
250	1550	870	1450	820	820	820	820	2300	1500	1700	820	1410	1450	520	275
315	1580	870	1550	820	820	820	820	2300	1600	1800	820	1520	1550	530	280
400	1740	870	1710	820	820	820	820	2450	1600	1950	820	1650	1710	560	320
500	1740	870	1900	820	820	820	820	2450	1600	2100	820	1800	1900	570	330
630	1860	870	1980	820	820	820	820	2550	1700	2250	820	1900	1980	560	320
800	1860	870	2180	820	820	820	820	2550	1700	2400	820	2100	2180	575	330
1000	1900	1120	2265	1070	1070	1070	1070	2600	1800	2500	1070	2125	2265	570	325
1250	1950	1120	2355	1070	1070	1070	1070	2650	1800	2600	1070	2285	2355	585	340
1600	2000	1120	2380	1070	1070	1070	1070	2700	1800	2650	1070	2300	2380	610	370
2000	2100	1120	2480	1070	1070	1070	1070	2800	1800	2700	1070	2380	2480	630	405
2500	2200	1120	2550	1070	1070	1070	1070	2900	1800	2800	1070	2420	2550	640	420

YBW33kV Environmentally friendly combined substation



YBW33KV Overview

YBW 33kV Combined type transformer substation is a kind of complete set product integrating voltage switch equipmentand transformer with LV distribution equipment. It is usually applied to civic architec-tures,

Residential districts,mid-size and small-size factories, mine and oil fields, used as tran-sformation and distribution equipment,with characteristics of strong completeness, compact struct-ure, high

Reliability, low on-site workload, shortinstallation period, movability, etc. In addition, its color and exterior can be changed appropriately to adaptto the surroundings and beautifythe environment,

It really is the ideal successor of current urban and ruralcivil engineering transformer substation, and also is a new type complete set equipment for urban network construction and reformation.

YBW33KV Model and meaning

YB W □ - □ 33 / □

- Rated voltage at LV side (kV)
- Rated voltage at HV side (kV)
- Capacity of transformer(kva)
- Design number
- Outdoor
- Transformer substation

YBW33KV Technical data

Model	Raled voltage(kV)	Rated capacity(kva)	Change(KV/KV)
SZ7	33	400-20000	33/11, 33/6.3, 33/0.4
SZ9	33	400-20000	33/11, 33/6.3, 33/0.4

YBW33KV Use environmental conditions

1. Altitude: ⩽ 1000m;
2. Ambient temperature: +40°C -25°C ;
3. Relative humidity: Daily average ⩽ 95%, monthly average ⩽ 90%;
4. Abnormal severe vibration or impact;
5. Environment for installation: Indoors, no fire or explosion danger, no corrosive gas or dust, no sharp impact.

Note: Please negotiate with us if your product is used beyond the range of above conditions.

YBW33KV Structural features

1.This transformer substation is made up of HV swich compartment, LV switch compartment, relay protection compartment and transformer compartment. Enclosures of HV switch compartment, LV switch compartment and relay protection compartment can be made of aluminum alloy plate, steel plate of composite plate. Aluminum alloy plate is anodic oxidation treated to strengthen its corrosion stability. Steel plate and steel structured parts are all phosphating treated, and the composite plate is featured with vivid appearance, heat insulation and fire retardation. The transformer compartm-ent is arranged with safeguard protecting net but not enclosed enclosure, which notonly gua-rantees better thermal diffusivity, but also is able to insure person and equipment against accident.

2.HV switch compartment The HV switch compartment can be mounted with JYNI-33, KYNI0-33 switchgear or 33kV load switch. Aerial cable type is available formounting 33kV inletand outlet wire.

3.LV switch compartment

◆ When it is 10KV at LV side, the LV switch compartment can be mounted with XGN2-10, KZNI-12 and KYNI-12 swichgear, HXGNII-10F, HXGN26-10(F) Ring mainunit

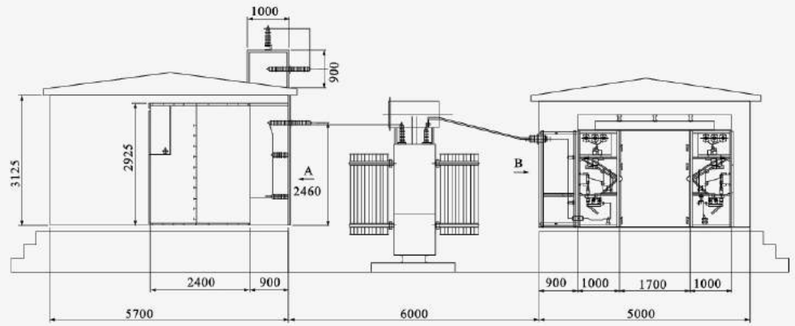
◆ When it is 0.4KV at LV side, the LV switch compartment (no preparation of LV switchgear in consideration of space saving) can be mounted with DW15T series, MEseries, M series and F series frame type circuit breaker as well as DZ20 series, CM series, H series and S series molded case air circuit breaker.

4.Power-off protection compartment The power-off protection compartment is mounted with AC panel, DC panel, signal panel, protection pandel, motion control panel(RTU), carrier wave machine panel or optical fiber termination set.

Note: This transformer substation can adopt general relay protection, also microcomputer-based integreted automatic control system is available on request.

5.Refer to the diagram for plan layout and vertical plane layout of transformer substation of 33kV.

YBW33KV Internal structure



YBW24kV Environmentally friendly combined substation



YBW24KV Overview

YBW 24kV Combined type transformer substation is a kind of complete set product integrating voltage switch equipmentand transformer with LV distribution equipment. It is usually applied to civic architec-tures,

Residential districts,mid-size and small-size factories, mine and oil fields, used as tran-sformation and distribution equipment,with characteristics of strong completeness, compact struct-ure, high

Reliability, low on-site workload, shortinstallation period, movability, etc. In addition, its color and exterior can be changed appropriately to adaptto the surroundings and beautifythe environment,

It really is the ideal successor of current urban and ruralcivil engineering transformer substation, and also is a new type complete set equipment for urban network construction and reformation.

YBW24KV Model and meaning

YB W □ - □ 24 / □

- Rated voltage at LV side (kV)
- Rated voltage at HV side (kV)
- Capacity of transformer(kva)
- Design number
- Outdoor
- Transformer substation

YBW24KV Technical data

Model	Raled voltage(kV)	Rated capacity(kva)	Change(KV/KV)
SZ7	33	400-20000	33/11, 33/6.3, 33/0.4
SZ9	33	400-20000	33/11, 33/6.3, 33/0.4

YBW24KV Use environmental conditions

1. Altitude: ⩽ 1000m;
2. Ambient temperature: +40°C -25°C ;
3. Relative humidity: Daily average ⩽ 95%, monthly average ⩽ 90%;
4. Abnormal severe vibration or impact;
5. Environment for installation: Indoors, no fire or explosion danger, no corrosive gas or dust, no sharp impact.
   Note: Please negotiate with us if your product is used beyond the range of above conditions.

YBW24KV Structural features

1.This transformer substation is made up of HV swich compartment, LV switch compartment, relay protection compartment and transformer compartment. Enclosures of HV switch compartment, LV switch compartment and relay protection compartment can be made of aluminum alloy plate, steel plate of composite plate. Aluminum alloy plate is anodic oxidation treated to strengthen its corrosion stability. Steel plate and steel structured parts are all phosphating treated, and the composite plate is featured with vivid appearance, heat insulation and fire retardation. The transformer compartm-ent is arranged with safeguard protecting net but not enclosed enclosure, which notonly gua-rantees better thermal diffusivity, but also is able to insure person and equipment against accident.

2.HV switch compartment The HV switch compartment can be mounted with JYNI-33, KYNI0-33 switchgear or 33kV load switch. Aerial cable type is available formounting 33kV inletand outlet wire.

3.LV switch compartment

◆ When it is 10KV at LV side, the LV switch compartment can be mounted with XGN2-10, KZNI-12 and KYNI-12 swichgear, HXGNII-10F, HXGN26-10(F) Ring mainunit

◆ When it is 0.4KV at LV side, the LV switch compartment (no preparation of LV switchgear in consideration of space saving) can be mounted with DW15T series, MEseries, M series and F series frame type circuit breaker as well as DZ20 series, CM series, H series and S series molded case air circuit breaker.

4.Power-off protection compartment The power-off protection compartment is mounted with AC panel, DC panel, signal panel, protection pandel, motion control panel(RTU), carrier wave machine panel or optical fiber termination set.

Note: This transformer substation can adopt general relay protection, also microcomputer-based integreted automatic control system is available on request.

5.Refer to the diagram for plan layout and vertical plane layout of transformer substation of 33kV.

LUGAO Substation series

YBM Intelligent prefabricated substation



YBM Overview

Intelligent box substation of series YB, the newest product developed independently by HUADIAN ELECTRIC Company integrates the advantages of American box substation, European box substation andhome box substation which adopts environment protection and new material, new technology and advanced components as well as high-low voltage automation technology, and among them, thehigh voltage side (12KV) can meet the demand of power department for power distribution automation, and the low voltage side (0.4KV) can meet the demand of intelligent community property management, and the upper monitor which is located in the central station or the property management department can be used for four-remote (remote measurement, remote communication remote adjustment, remote control) system management. When several intelligent box substations connect into "hand-in-hand" ring network and supply power, they, combined with autonomous software, can accomplish the functions of automatic location, fault clearance, load shifting and network reconfiguration at the fault section, so that the recovery of power transmission is guaranteed in one minute. This series of intelligent box substation is one optimized combination of complete intelligent power supply and distribution integrated device consisting of high voltage unit, power transformer, low voltage unit, metering unit and intelligent system etc. It has the characteristics of multi-functions, wide application, safe and reliable operation, beautiful out line,as well as convenient installation, little land occupation, little maintenance, low cost, quick effect and long service life. It can be used as power transformation and distribution equipment in the following departments and places, such as urban architecture, residential areas, municipal facilities, factories, mines, roads, wharves and oil fields, as well as construction in need of temporary power supply.

YBM Model and meaning

Y B M □ -12/0.4-(□)/□ - □

- kVA Rated capacity of transformer
- Matched operation mechanism sort for high voltage switch device
- Matched main switch sort for high voltage switch device
- Design No.
- Structural feature: P-"品" form M-"目" form
- Transformer substation
- Prefabricated

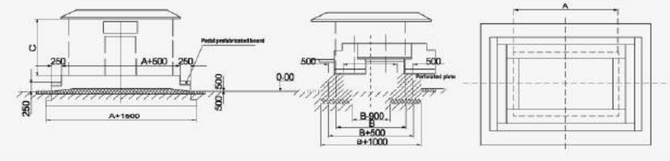
YBM The main technical parameters

Item	Unit	High voltage electrical equipment	Transformer	Low voltage electrical equipment
Rated voltage	kV	7.2、12	6/0.4、11/0.4	0.4
Rated capacity	kvA		"目" type：200~1250	
			"品" type：50~400	
Rated current	A	200~630		100~3000
Rated breaking current	A	Load switch400~630A		15~63
	kA	Combined electrical equipment is dependent on fuse		
Rated short time withstand current(s)	kA(xs)	20×(2)	200~400kvA	15×1
		(12.5×4)	400kvA	30×1
Rated peak withstand current	kA	31.5、50	200~400kvA	30
			400kvA	63
Rated closing current	kA	31.5、50		
Line frequency withstand voltage	kV	Phase to earth and phase similar 32、40	Oil immersion：35/5min	≤ 300V 2kV
		Isolated fracture 34、48	Dry type：28/5min	300,600V 2.5kV
Thunderstroke impact	kV	Phase to earth and phase similar 60、75	75	
		Isolated fracture 75、85	75	
Noise level	dB		Oil immersion：<55	
			Dry type：<65	
Protection grade			IP23D	
Outline dimension		Choose different outline dimension according to the capacity and mode of selected transformer.		

YBM Common dimensions

No.	Cabinet type	Outline dimension (mm)	Structure form	Operation mode
1	Flat top type	3000×1600×2200	目 -shaped	Single-sided outdoor operation
		3200×2200×2500	目 -shaped	Single-sided outdoor operation
		3700×2300×2500	目 -shaped	Single-sided outdoor operation
		4000×2500×2500	目 -shaped	Single-sided outdoor operation
		4300×2500×2500	目 -shaped	Double-sided corridor operation
		4700×2500×2500	目 -shaped	Double-sided corridor operation
		5300×2500×2500	目 -shaped	Double-sided corridor operation
		6300×2500×2700	目 -shaped	Double-sided corridor operation
		8000×2500×2700	目 -shaped	Double-sided corridor operation
2	Fastigium typ	3200×2200×2500	目 -shaped	Single-sided outdoor operation
		3200×2500×2500	目 -shaped	Single-sided outdoor operation
		3600×2300×2500	品 -shaped	Single-sided outdoor operation
		4300×2300×2500	目 -shaped	Double-sided corridor operation
		4500×2300×2500	目 -shaped	Double-sided corridor operation
3	Slanted-top type	3500×2000×2500	品 -shaped	Single-sided outdoor operation
4	Half-open type	2800×1800×2500	品 -shaped	Single-sided outdoor operation

YBM Outline & Mounting Dimensions



YB6-1 Intelligent prefabricated substation



Summary

The combined American type box transformer is to put the transformer body, highvoltage load switch, fuse and other components in the transformer oil tank together.The volume of the components is greatly reduced due to the immersion in the oil

The structure is more compact, and the installation is convenient and flexible. Fully insulated, fully sealed structure, safe and reliable, easy to operate and maintenance free. It is widely used in residential areas, high-tech centers, factories and enterprises, airports, stations, schools and other places.

Product parameters

Rated voltage (RMS, KV)	Maximum voltage of equipment (RMS, KV)	Rated lightning impulse withstand voltage at high voltage side(peak, KV)		Rated lightning impulse withstand voltage at high voltage side (1min, RMS, KV)
		Full wave	Truncation	
35/0.69	40.5	200	220	95

Substation series

Product parameters

Serial number	Inspection items	Process inspection	Factory inspection	Type inspection	Special inspection	Inspection requirements	Test method
1	General inspection		□	○	-	4.6.1	Visual inspection
2	Power on operation test of low voltage apparatus		□	○	-	GB7251.1-1997	GB7251.1-1997
3	Mechanical operation test		□	○	-	4.6.2	JB/T10217-2000
4	Sealing test of oil tank	□	□	○	-	4.6.4	GB/T6451-1999
5	Measurement of DC Resistance Unbalance Rate		□	○	-	GB/T6451-1999	GB/T6451-1999
6	Transformation ratio measurement and connection group verification	□	□	○	-	GB/T1094.1-1996	GB/T1094.1-1996
7	Measurement of short circuit impedance and load loss	□	□	○	-	GB/T1094.1-1996	GB/T1094.1-1996
8	No load current and no load loss measurement	□	□	○	-	GB/T1094.1-1996	GB/T1094.1-1996
9	Measurement of insulation resistance to ground	-	□	○	-	GB/T6451-1999	GB/T6451-1999
10	Insulation routine test	-	□	○	-	4.6.3	GB/T16927.1～2-1997 GB1094.3-2003 GB/T16935.1-1997
11	Insulation oil test	-	□	○	-	GB/T1094.1-1996	GB/T1094.1-1996
12	Temperature rise test	-	-	○	-	4.6.5	GB/T1094.2-1996 GB/7251.1-1997
13	Mechanical life test	-	-	○	-	4.6.2	JB/T 10127-2000
14	Mechanical strength test of oil tank	-	-	○	-	4.6.4	GB/T6451-1999
15	Lightning impulse test	-	-	○	-	4.6.3	GB/T16927.1～2-1997 GB1094.3-2003
16	Breaking capacity test of high voltage load switch	-	-	○	-	4.6.8	GB3804-2004
17	Rated short time and peak withstand current capability test	-	-	○	-	4.6.7	GB3804-2004 GB/7251.1-1997
18	Protection level test	-	-	○	-	4.6.8	GB4208-1993

YB6-2 Intelligent integrated substation



Overview

This intelligent integrated transfonner substation is a nationalized type American box substation developed by Company. Asan important power supply unit in the cable distribution network, it is an in tegrated prefabricated product ofhigh voltage control, protection, power transformation and power distribution, whichis widely used in the urban and rural distribution network. The high voltage load switch and high, voltage fuse are put into the transformer oil, so this product has two structure forms of onebox and divided box with the transformer body. The oil box is of full-sealed structure with oil temperature indicator, oillevel gauge, pressure gauge, pressure relief valve and oil drain valveto monitor the operation condition of the transformer. This kind of products has three types of power supply modes ring network type, terminal type and power type. In order to make the product meet the actual demands of the power grid in China better, Company promotes plug-pull dry type fuse and the fusing of the fuse wire hasno effecttotheperformanceoftransformeroil.Accordingtothecomplicateddegreeof low voltage outgoing demands, this product has three types of enclosure - standard type, reinforced type and integrated type, as a result, the clients and design agents have more choices.

Model and meaning

Y B - □ / □ - □

- Rated capacity of transformer
- Rated voltage afLVside
- Rated voltage afHVside
- Design serial No.
- This integrated transformer substation

Use environmental conditions

1.Ambient temperature: maximum +40°C，minimum-30°C ;
2.Altitude: ⩽ 1000m
3.Wind speed: About34m/s (⩽ 700Pa);
4.Humidity: Average daily relative humidity ⩽ 95%
Average monthly relative humidity ⩽ 90%
5.Shockprwf: Level acceleration ⩽ 0.4m/s2;vertical acceleration ⩽ 0.15 m/s2;
6.Gradient of installation position: < 3° .
7.Installing environment: ambient air has not been obviously polluted by corrosive or flammable gas,andthere is no strong feeling of shock.
8.Please negotiate with tlie company when the purchased product is beyond above stipulated conditions.

Product rated parameters

Rated voltage	10kV/0.4kV
Rated voltage afHVside	lOkV
Max. voltage of high-voltage side	12kV
Rated voltage afLVside	0.4kV
Rated frequency	50Hz
Thermal stability capacity of high-voltage breaker	20kA/2S
Rated short-circuit breaking capacity of low-voltage main circuit switch	35kA
Rated short-circuit breaJdng capacity of low-voltage branch circuit switch	35kA
Transferred current of high-voltage load switch	> 1500A
Noise level	< 50dB
Enclosure protection level	Not less than IP3X

Structural features

The framework structure of the box enclosure is made of channel steel and angle steel with higher mechanical strength, the enclosure is made of aluminum alloy plate with smooth surface, beautiful outline and better anticorrosion performance, the base of the box body is 300~600mm higher than the ground. All the doors of the box enclosure are open to outside, and the opening angle is larger than 90° and is set with location device, handles, secret door, as well as built-in locks which have the functions of rain protection, anti-blockage and rast protection, the box bodies are of the full-sealed theft-proof structure, to assure the operation under the normal ambient air temperature, the temperature ofallthe electiical equpment canHexceedtfae maximum allowable temperature, and the box body has enough natural ventilation openings and heat insulation measures, the box body of the prefabricated substation is designed with special grounding conductor, on wMch there are more than 2 fixed connecting terminals connected to the grounding network and on which there axe obvious grounding marks, the grounding terminal is the copperbolt, the diameter of which is not less than 12mm. tlie gnmnding conductor is made from copper strip, tlie current density of whicli is not higher than200A/mm ^{2} and the cross section of which is not less than 30mm^2. and it is guaranteed that there is no overheat and there is no bad eflFect to the safety ofthe surrounding objects when the maximum short circuit cunrent passes, the dynamic and thermal stability current that the special grounding conductor endures must be combined with the grounding mode ofhigh voltage power distribution device.

LUGAO Oil-immersed transformer series

S11 Series 11Kv Distribution Transformer



Features of Products

S10 transformer is a 11kV class S10 series fully sealed transformer. It introduces the new technology of Shenyang Transformer Research Institute and adopts a fully oil-filled sealed type without oil storage cabinet. The transformer changes its oil body due to changes in temperature and load, which is completely regulated by the elasticity of the transformer oil tank.

Standard

GB1094.1-2013; GB1094.2-2013; GB1094.3-2013; GB1094.5-2008; GB/T 6451-2008; GB/T 1094.10-2003; JB/T 10088-2004
IEC60076; SANS 780 STANDARDS

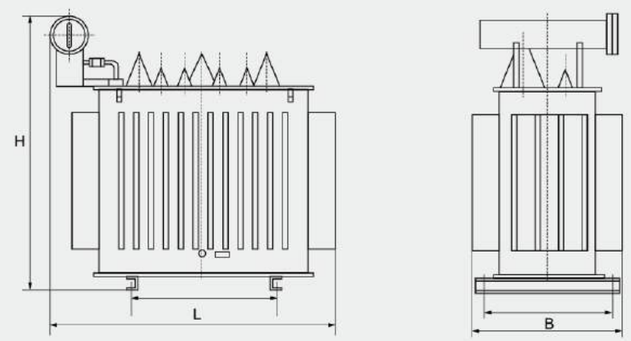
Features of Products

1. Meet or exceeds ANSI.IEC.GB.SANS.Standards
2. Safe Handling, Installation and Operation.
3. Attractive, modern appearance
4. Reasonable Structure
5. Fully-sealed
6. Higher system reliability
7. High security and reliability in operation
8. High capacity of overload and efficiency
9. Robust construction having excellent short circuit and thermal withstand capabilities
10. EVERPOWER Transformers are more efficient by Reduced no-load losses and Reduced load losses

A

LUGAO Oil-immersed transformer series

S11 series three phase distribution transformer



S11、S11-M series 11kV distribution transformer technical data

Rated capacity (kVA)	Voltage group (kV)		Vector group	Impedance voltage (%)	Loss (kW)		No-load current (%)	Weight(kg)			(L×B×H)(mm) Outline dimension	Gauge vertical/ horizontal (mm)
	High-voltage	Low-Voltage			No-load	Load		Machine weight	Oil weight	Gross weight		
5	13.8 13.2 11 10.5 10 6	0.4 0.415 0.433	Yyno Dyn11 Dyn5	4	0.07	0.35	4	50	45	145	550×450×800	400/350
10					0.09	0.40	3.5	70	55	185	550×450×800	400/350
20					0.11	0.52	3.0	110	60	235	660×505×850	400/350
30					0.13	0.63/0.6	2.3	130	65	265	660×530×870	450/340
50					0.17	0.91/0.87	2.0	195	80	365	740×600×930	450/380
63					0.20	1.09/1.04	1.9	230	80	400	720×620×100	450/380
80					0.25	1.31/1.25	1.9	260	95	460	770×640×1030	450/430
100					0.29	1.58/1.5	1.8	300	95	510	820×710×970	550/450
125					0.34	1.89/1.8	1.7	335	115	585	1040×680×1080	550/470
160					0.40	2.31/2.2	1.6	405	130	685	1090×670×1130	550/520
200					0.48	2.73/2.6	1.5	490	150	810	1160×760×1090	550/520
250					0.56	3.2/3.05	1.4	565	170	935	1215×775×1180	650/550
315					0.67	3.83/3.65	1.4	655	200	1095	1345×890×1205	650/550
400					0.80	4.52/4.3	1.3	840	250	1385	1450×935×1240	650/550
500					0.96	5.41/5.15	1.2	935	235	1505	1410×970×1290	750/600
630				4.5	1.20	6.2	1.1	1100	330	1830	1595×1040×1315	850/660
800					1.40	7.5	1.0	1360	370	2225	1765×1170×1350	850/660
1000					1.70	10.3	1.0	1455	475	2555	1855×1255×1490	850/660
1250					1.95	12.0	0.9	1715	545	3140	1885×1270×1590	850/660
1600					2.40	14.5	0.8	2095	630	3680	1950×1620×2020	850/700
2000					2.80	19.8	0.8	2340	715	4190	2060×1740×2050	820/820
2500					3.30	23.0	0.7	2920	830	5100	2250×1800×210	1070/1070

Note: Tapping range of high-voltage: ±5%, ±2×2.5%; Frequency: 50Hz

RM-40.5 Rm-40.5 Gas filling cabinet



Summary

Rm-40.5 series ring main unit provides 10 kinds of standard combination forms, whichcan meet the application requirements of most 36 ~ 40.5kV distribution network.

Rm-40.5 is acompact switchgear that can provide almost any combination of selected functional units. Rm-40.5 series has interface and user interface, providing complete switch application solution in 36 ~ 40.5kV secondary distribution network.

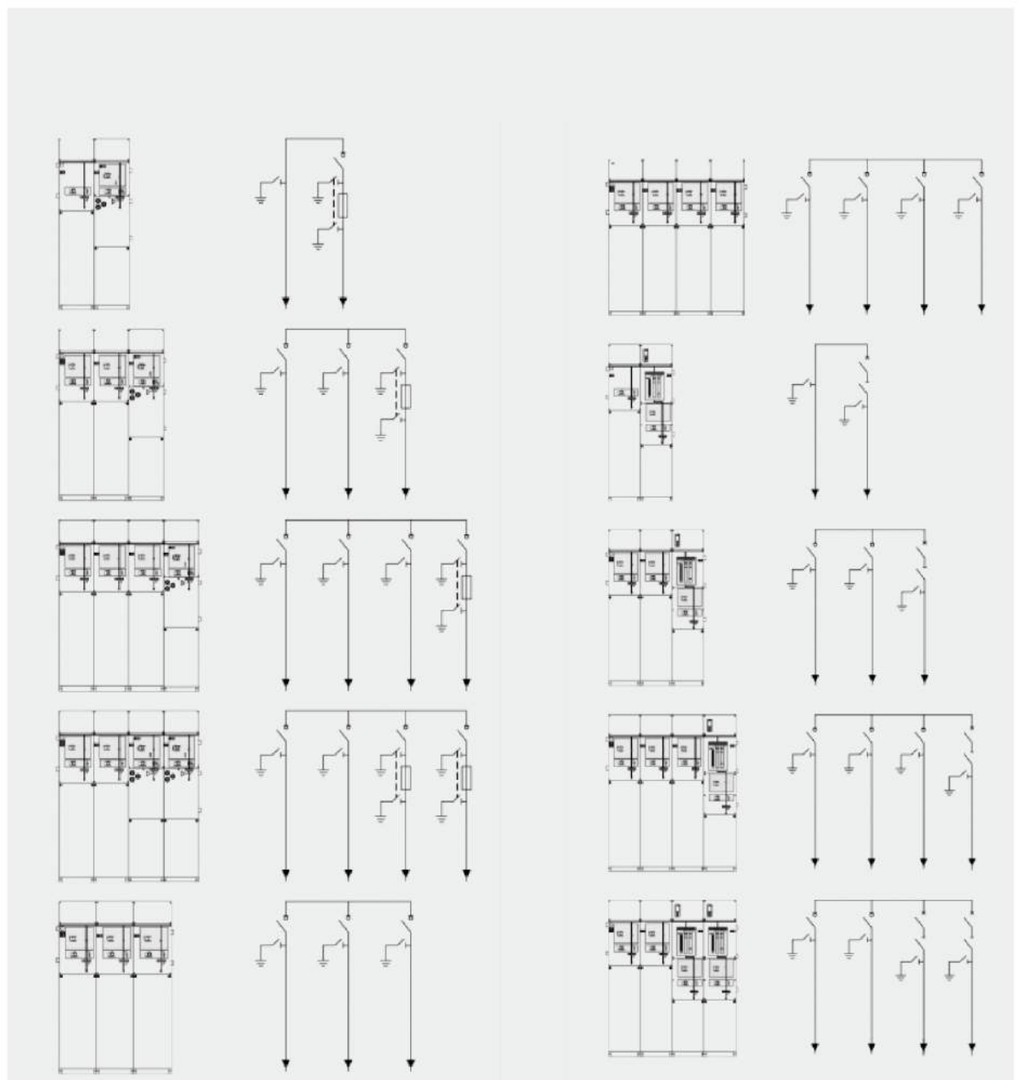
Rm-40.5 series stainless steel gas chamber is filled with SF6 gas, which completely seals all live parts and switches from the outside world. This fully sealed system makes the internal switch and all live parts unaffected by external environmental changes, ensuring high reliability, personnel safety and practically maintenance free.

Place of use

◇ Compact secondary substation
◇ Small industrial and mining enterprises
◇ Wind power plant
◇ Hotel, shopping mall, office building, business center, etc
◇ C-load switch unit
◇ D-direct cable connection unit
◇ De - direct cable connection unit with earthing switch
◇ F-load switch fuse unit
◇ V-vacuum circuit breaker unit

LUGAO Inflatable cabinet series

To configure



LG-SRM-12/24 /40.5 630/20 SF6 Fully insulated metal-enclosed compact switchgear



LG-SRM-12/24 /40.5 630/20 SF6 Standard specification

LG-SRM-12/24/40.5 series SF6 fully insulated and fully enclosed compact ring network cabinet (hereinafter referred to as inflatable cabinet) is suitable for three-phase AC 50Hz, rated voltage 24kV power distribution system,

It can be used as a load current, an overload current, and a short circuit. It can also break capacitive loads such as no-load transformers, fixed-line overhead lines, cable lines and capacitor banks, and generate power in the power system.

Distribution, control and protection. LG-SRM-12/24/40.5 adopts a fully sealed structure, all of which are sealed in a gas chamber welded

by a stainless steel plate with a protection rating of IP67.

It can adapt to humid and salty fog, such as flood, heavy pollution and other harsh environmental conditions, and operate safe and reliable multi-loop ring network switchgear.Widely used in industrial parks, streets, airports,

Residential areas, prosperous commercial centers, etc., are ideal equipment for distribution network automation.Also used in: compact box-type substations, cable branch boxes, opening and closing, wind power stations, subways and tunnels.

LG-SRM-12/24 /40.5 630/20 Use of environmental conditions

1. Ambient temperature: -40°C ~ +40°C (less than -30 °C by the user and the manufacturer to negotiate)
2. Altitude: ⩽ 2500 meters (more than 2500 meters by the user and the manufacturer)
3. Maximum average relative humidity: 24-hour average ⩽ 95%, monthly average ⩽ 90%
4. Earthquake intensity: no more than 8 degrees
5. Locations without fire, explosion, chemical corrosion and frequent severe vibration

Single-spacer dimensions: width 350* depth 810* height 1450

LUGAO Inflatable cabinet series

LG-SRM-12/24 /40.5 630/20 SF6 Main technical parameters

Serial No.	Project	C Module	F Module	V Module	
		Load switch	Combination Electrical Appliances	Vacuum circuit breaker	Lsolation/Grounding Switch
1	Rated voltage (kV)	12		24	
2	1min Power frequency withstand voltage (kV)	42/48		65/79	
3	Lightning impulse withstand voltag (kV)	75/85		125/145	
4	Rated current (A)	630	125*	630	630
5	Turn on and off current				
	Closed-loop interrupting current (A)	630			
	Cable Charging Opening Current (A)	10			
	5% Active Load Open-Out Current (A)	31.5			
	Grounding fault interruption current (A)	31.5			
	Short circuit breaking current (kA)		31.5*	20	
6	Short-circuit closing current (kA)	63	80*	20	
7	Short-circuit withstand current (kA)	20		20	20
8	Short circuit duration (s)	4		4	4/2
9	Mechanical life time	5000	5000	10000	10000
10	SF6 Gas Pressure (bar)	1.2/12 1.4/24 (20°C)			
11	Annual leak rate	0.1%			
12	Protection Level	IP67/4X (Gas tank/Enclosure)			

Serial No.	Project	C Module	F Module	V Module			
		Load switch	Combination Electrical Appliances	Vacuum circuit breaker		Isolation/Grounding Switch	
1	Rated voltage (kV)	40.5					
2	1min power frequency withstand voltage (kV)	95/118					
3	Lightning impulse withstand voltage (kV)	185/215					
4	Rated current (A)	630	80*	630	1250	630	1250
5	Rated Closed-loop interrupting current (A)	630					
6	Rated Cable Charging Opening Current (A)	21					
7	5% Active Load Open-Out Current (A)	31.5					
8	Grounding fault interruption current (A)	63					
9	RatedShort circuit breaking current (kA)		31.5*	20	25		
10	Rated short circuit closing current (kA	50	80*	50	63	50	63
11	Rated short circuit withstand current (kA)	20		20	25	20	25
12	Rated short circuit duration (s)	4		4		4	
13	Mechanical life time	5000	5000	10000		5000	
14	SF6 Gas Pressure (bar)	1.4/ (20°C)					
15	SF6 Annual leak rate	0.1%					
16	Protection Level	IP67/4X (Gas tank/Enclosure)					

* Indicates that depends on or is limited by a fuse.

LUGAO Inflatable cabinet series

B

LG □ -12 Fully sealed fully insulated inflatable ring network switchgear



Overview

LG □ -12 series fully insulated fully enclosed ring network switchgear is SF6 gas insulated metal common box closed switchgear, which can be used by load switch unit, load switchFused combination of electrical unit, vacuum circuit breaker unit, bus line unit and other modules. Use a range of advanced technologies and materials. Has excellent electrical properties and machineryThe performance is affected by the environment and climate, small and compact, easy to install, easy to operate, no maintenance, and a flexible combination. Clear and intuitive design ensures easy operationdirect. Feeder wiring capacity is large, suitable for a variety of wiring systems.

Model and meaning

LG □ 12/24 CFV

- CFV — Combination scheme
- 12/24 — Voltage level (kV)
- □ — C-GIS fully insulated switchgear
- LG — Enterprise code

Four core competitiveness

1. Operational safety. Through the following security measures, we can provide users with special security guarantees:
Integrated three-station load switch
Circuit breaker adopts load switch instead of isolation switch, which is more safe and reliable
One-side fully enclosed design provides protection against accidental contact
Mechanical interlock to meet the requirements of five defenses
Electricity display can provide instructions for electrification on the incoming and outgoing lines
2. reliable operation. Fully sealed design, all 10kV switch and busbar charged body are sealed in the air box welded with 3mm stainless steel plate; equipped
with silicone rubber cable plug to realize the cable head Edge sealed so that it is not affected by dust, moisture, small animals and other external environment:
Spring energy storage operating mechanism, can be manually or electrically operated
Panel model line diagram provides switch position indication
Cabinet made of galvanized sheet, electrostatic spraying on the surface to enhance corrosion resistance
The pressure gauge monitors the safe pressure range of SF6 gas in the box
3. Economicality.
Maintenance-free
highly reliable
Service life up to 20 years
4. The program is flexible.
A variety of ways to enter, can achieve left, right, up or forward line
multiple combinations, any combination between the units can be achieved
Insulation busbars can be used to combine front and back cabinets or cabinets
Flexible design
Optional arrangement of spring mechanism and permanent magnet mechanism

The main technical parameters

project		unit	C module load switch unit	F module load switch-fuse combination electric unit	V breaker unit
Rated voltage		kV	12	12	12
Rated current		A	630	125 注 (1)	630
Power frequency withstand voltage / 1 minute	Phase to ground/phase to phase	kV	42	42	42
	Fracture	kV	48	48	48
Zmpact withstand volfage	Phase to ground/phase to phase	kV	75	-	75
	Fracture	kV	85	-	85
Rated closed-loop breaking current		A	630	-	-
Rated cable charging breaking current		A	30	-	-
Rated breaking inductive current		A	注 (2)	-	-
Rated short-time withstand current /3s		kA	20	-	20
Rated withstand current peak		kA	50	1700	50
Rated transfer current		A	-	注 (3)	-
Rated short-circuit breaking current		kA	-	-	20
Rated short-circuit making current		kA	50	-	-
Rated short circuit breaking times		second	-	-	30
Rated short circuit closing times (load switch/grounding switch)		second	5/5	-	-
Rated current breaking times		second	>100	-	-
Times of mechanical operations (load switch/grounding switch)		second	5000/2000	5000/2000	30000

LUGAO Inflatable cabinet series

LG-12 Intelligent solid insulation cabinet



Overview

LG-12 series solid all-insulated closed ring network switchgear is a kind of solid insulation vacuum switchgear with full insulation, full seal and maintenance-free. All high-voltage live parts are insulated Excellent epoxy resin material is cast and molded, which organically combines the vacuum arc extinguishing chamber, main electric circuit and insulation support into a whole, and the functional units are connected by fully insulated solid bus bars. Therefore, the wholeEach switchgear is not affected by external environment, which can ensure the reliability of equipment operation and the safety of operators. The ring network cabinet has the characteristics of simple structure, flexible operation, reliable interlocking and convenient installation. It is suitable for 50Hz and 12 kV power systems and is widely used in industrial and civil cable ring networks and distribution Network terminal engineering, as the receiving and distribution of electric energy, is especially suitable for power distribution in urban residential areas, small substations, opening and closing stations, cable branch box, box-type substations, industrial and mining enterprises, shopping malls and machines Field, subway, wind power generation, hospitals, stadiums, railways, tunnels and other places.Because the product has the advantages of full insulation, full sealing and full shielding, it is especially suitable for high altitude, high temperature, damp heat, severe cold and severe pollution.

Model and meaning

LG - 12

- 12 — The rated voltage (kV)
- LG — Stationary type

Using conditions

1.Ambient temperature: -45℃ ~+45℃

2.Humidity: maximum average relative humidity, with daily average ⩽ 95% and monthly average ⩽ 90%

3.Altitude: ⩽ 2000 meters

4.Seismic resistance: 8 degrees

5.Protection grade: live body seal IP67, fuse barrel IP67, switch cabinet shell IP3X

Application field

1.Low temperature and cold area: there is no application of SF6 gas, so it can run normally at -45℃ without considering the low temperature operation of SF6 gas.

2.Plateau area: it is unnecessary to consider the influence of plateau atmospheric pressure on insulation performance.

3.Strong sandstorm area: The safety protection level of solid insulation ring network cabinet body is IP67, and the control loop room adopts special treatment to ensure long-term operation in strong sandstorm area.

4.Coastal wet pool area: sealed with epoxy resin, resistant to moisture and salt spray corrosion, ensuring long-term use in coastal areas.

5.Areas with high environmental protection requirements: The influence of SF6 gas on atmospheric warming has been paid great attention to, and SF6 gas has been eliminated in solid ring network cabinets, thus causing no pollution and harm to the environment and people.

6.In smart grid: since the main switch and isolating switch can be electrically operated, the intelligent controller developed by our company can be selected for remote control, telemetry and telecommunication of switching equipment and substation site, which can not only carry out decentralized control, but also facilitate centralized control.

LUGAO High voltage switchgear series

KYN61-40.5(Z) Armored removable AC metal enclosed switchgear



KYN61-40.5(Z) Overview

KYN61-40.5(Z) type alternating-current metal-clad and metal-enclosed withdrawable switchgear (hereinafter referred to as switchgear) is a indoor complete set of power distribution unit of three-phase AC50Hz and rated voltage of 40.5kV. Used for receiving and distributing the electric energy in power plants, transformer substations,mining and industrial enterprises, etc., it controls, protects and detects the circuits, also is applicable to frequent operation locations. This switchgear complies with GB/T11022-1999, GB3906-1991, DL404-1997,etc.

KYN61-40.5(Z) Main function

1. Cabinet structure is of assembly type, the circuit breaker adopts floor type handcart structure;
2. Equipped with brand new composite insulated vacuum circuit breaker, is featured with good interchangeability, and is simple to change;
3. The handcart frame is mounted with lead screw nut propelling mechanism, it is able to move the handcart easily, and prevent damage of propelling mechanism caused by misoperation;
4. All operations can be carried out when the cabinet door is closed;
5. Interlocking among the main switch, handcart and switchgear adopts compulsory mechanical locking mode, meeting the "five preventions" function;
6. Cable chamber is large enough, it could connect multi cables;
7. The fast earthing switch is used for earthing and circuit short-circuit;
8. Degree of protection of the enclosure is IP3X, and is IP2X when the door of handcart chamber is opened;
9. The product complies with GB3906-1991, DL404-1997 and refers to the international standard IEC-298.

KYN61-40.5(Z) Use environmental conditions

1. Ambient temperature: -10°C ~+40°C , mean value measured within 24h should not exceed 35°C .
2. Altitude: not exceed 1000m;
3. Relative humidity: daily mean not over 95%, monthly mean not over 90%;
4. Seismic intensity: not beyond Ms8;
5. Vapor pressure: daily mean not over 2.2kPa, monthly mean not over 1.8kPa.
6. Ambient environment: the installation site should be free of fire, explosive danger, serious pollution, chemical corrosion or severe vibration.

KYN61-40.5(Z) Main technical parameters

Name	Unit	value
Rated voltage	kV	40.5
Rated current	A	1250 1600 2000
Rated frequency	Hz	50
Rated short-time withstand current	kA	20 25 31.5
Rated peak withstand current	kA	50 63 80
Rated power frequency withstand voltage	kV	95/1min
Rated lightning impulse withstand voltage	kV	185
Rated short-circuit duration	s	4
Degree of protection		IP3X

KYN61-40.5(Z) Main technical parameters

Name	Unit	value
Rated voltage	kV	40.5
Rated frequency	Hz	50
Rated power frequency withstand voltage	kV	95/1min
Rated lightning impulse withstand voltage	kV	185
Rated current	A	1250 1600 2000
Rated short-time withstand current	kA	20 25 31.5
Rated short-time breaking current	kA	20 25 31.5
Rated peak withstand current	kA	50 63 80
Rated short-circuit duration	ms	4
Opening time	ms	30 ⩽ t ⩽ 60
Closing time	s	50 ⩽ t ⩽ 100
Rated short-circuit breaking current times	times	20
Mechanical life	times	10000

KYN61-40.5(Z) Main technical parameters

Name	Unit	value	
Rated operating voltage	Opening coil	V	DC220/110, AC220/110
	Closing coil		
Rated operating current	Opening coil	A	0.96(220V), 1.05(110V)
	Closing coil		
Power of energy-storage motor		W	230
Rated voltage of energy-storage motor		V	DC220/110, AC220/110
Energy-storage time		S	⩽ 12

KYN28-24(Z) Armored removable AC metal-enclosed switchgear



KYN28-24(Z) Overview

KYN28-24(Z) series alternating-current metal-clad and metal-enclosed with drawable switchgear(hereinafter referred to as "switchgear") is a complete set of power distribution unit of three-phasesingle bus and single bus section system of 20kV and AC50(60)Hz.

This switchgear is mainly applicable to power plants, power transmitting of middle and small sized generators,distribution of industrial and mining enterprises, electricity receiving and transmitting of secondary substations,as well as starting of large high-voltage motors, etc, realizes control protection and monitoring.

It has "five preventions", it prevents on-load pushing or pulling circuit breaker' s handcart, prevents making or breaking circuit breaker by mistake, prevents closing circuit breaker when the earthing switch is at closing position, prevents entering into live compartment by mistake, and prevents closing earthing switch under live condition. It can be equipped with the NV1-24 type vacuum circuit breaker developed by our company, it really is an ideal distribution equipment with perfect performances.

It complies with the standards GB 3906, GB/T 11022 and IEC 60298.

KYN28-24(Z) Model and meaning

K Y N □ -24 (Z) / □ - □ □ □

- Environmental features
- Scheme No.
- Rated short-circuit breaking current
- Rated current
- Vacuum circuit breaker
- Rated voltage
- Design No.
- Indoor purposed
- Withdrawable
- Metal clad

KYN28-24(Z) Use environmental conditions

1. Ambient air temperature: -15℃ ~+40℃ ;
2. Altitude: ⩽ 1000m;
3. Relative humidity: daily mean relative humidity not over 95%, monthly mean not over 90%;
4. Seismic intensity: not beyond Ms8;
5. The installation site should be free of fire, explosive danger, serious pollution, chemical corrosion or severevibration.
6. If the product is intended for locations beyond the normal service conditions stipulated by GB3906, pleasenegotiate with our company.

KYN28-24(Z) The main technical parameters

Name	Unit	Data
		Matched circuit breakerNV1-24
Rated voltage	kV	24
1min power frequency withstand voltage	kV	(50)65
Rated impulse withstand voltage (peak)	kV	125
Rated frequency	Hz	50(60)
Rated current	A	630 1250 1600 2000 2500 3150
Rated current of branch bus	A	630 1250 1600 2000 2500
Rated short-time withstand current	kA	16 20 25 31.5
Rated peak withstand current	kA	40 50 63 80
Rated short-circuit duration	s	4
Degree of protection		The enclosure is IP4X, it is IP2X when the compartment door and circuit breaker chamber door are opened
Mass	kg	800 1000 (Rated current 1600A above)

KYN28-24(Z) Product structure performance characteristics

1. Switchgear of 24kV with compact volume

   Structure of this product is similar to that of mid-set switchgear of 12kV, the product is applicable to systems of 20kV, need not composite insulation or interphase separator,with outstanding insul-ation performance.

2. Safe structure, flexible installation

   This switchgear is composed of cabinet body and mid-set withdrawable part (i.e. handcart) two parts. The cabinet body is divided into four separate compartments, degree of protection of the enclo-sure is IP4X, and the protection degree is IP2X when compartment doors and circuit breaker chamber door are opened. It has overhead incoming and outgoing lines, cable incoming and outgoing lines and other function schemes, it can become power distribution unit of different schemes and forms after permutation and combination. This switchgear can be installed, debugged and maintained from the front side, so it can be arranged in duplex by means of back-to-back or arranged against the wall, which not only improves its safety and flexibility, but also reduces the floor space.

High voltage switchgear series

KYN28-12 Arored removable ACmetal-enclosed switchgear



KYN28A-12 Overview

This equipment is indoor metal armoring with drawable switchgear (hereafter refer to as switchgear. 3.6-12kilovolt three phase AC 50Hz single bus bar and the single bus bar subsection system's omplete electricity distribution equipment is used in the power plant, small and medium-sized generator power transmission, industry and mining business power distribution as well as electrical industry system's second transformer substation's electric take-over , power transmission and large-scale high pressure motor starting and so on. The purpose is to control, protect and monitor. This switch equipment is up to the standard of IEC298、GB3906 and can prevent the charge from pushing and pulling the breaker, from opening and closing the breaker, from insulation with electricity by mistaken, from earthed switch closing the breaker ,from opening the switch's interlock when it with electricity mistakenly. It can not only use with VSI vacuum circuit-breaker, but with ABB Corporation's VD4 vacuum circuit-breaker. It is indeed a kind of power distribution equipment with superior performance.

KYN28A-12 Use environmental conditions

1. Normal condition
   Surrounding air temperature:-10℃～ +40℃
   Altitude : 1000M
   Relative environment humidity: The daily relative humidity average is not higher than 95%, the monthly relative humidity average is not than higher 90%
   Earthquake : The intensity does not exceed 8 degree.
   The surrounding air without corrosive or flammable gas or water vapour.
   Without a lot of dirtiness and regular fierce vibration, under the severe condition, the intensity meets the first kind requirement.
2. special working conditions
   When it is used beyond the normal environmental condition stipulated in the GB3906, the user should consult with the manufacture.

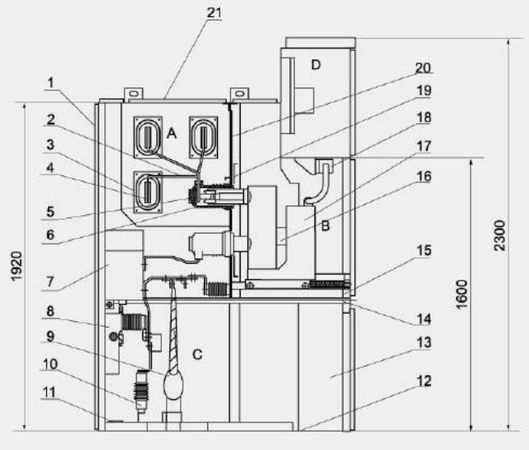
KYN28A-12 The main technical parameters

Item	Unit	Data	
		equipped with breaker	
		ZN63A-12(VS1)	VD4
Rated voltage	kV	12	12
1min working frequency endurable voltage	kV	42	42
Shock endurable rated voltage(Peak)	kV	75	75
Rated frequency	Hz	50	50
Rated current	A	630、1250、1600、2000、2500、3150、4000、5000	
Branch bus bar rated current	A	630、1250、1600、2000、2500、3150、4000、5000	
Rated short time endurable current(virtual value)	kA	16、20、25、31.5、40、50	16、20、25、31.5、40、50
Rated peak endurable voltage	kA	40、50、63、80、100、125	40、50、63、80、100、125
Rated short-circuit duration	s	4	
Protection degree		The enclosure is IP4X, and the compartment door and the handcart compartment door are IP2X when opened	
Quality	kg	700~1200	700~1200

KYN28A-12 Structure Introduction

The switch equipment is designed according to GB3906-91 metal armoring seal switch equipment. The rectifier body is made up of the cabinet body and draw-out parts (namely handcart) placed in the middle. See charter 1. The cabinet divides into four separate rooms, the outer covering protection grade is IP4X,when each small room and the circuit breaker is opened, the protection grade is IP2X.It can suspend the inlet, outlet line, cable' s inlet, outlet line and other function plan. After arranged and combined, it can become each kind of plan form of the power distribution equipment. This switch equipment may be installed and maintained from the frontage, therefore it may compose the dual arrangement back to back and be installed against the wall, improving the switch equipment' s security and flexibility and making full use of the occupying area.

KYN28A-12 Switchgear structure diagram



A. the bus bar room
B. the circuit breaker handcart room
C. the cable room
D. the relay instrument room
1. cover
2. branch small bus bar
3. bus bar pipe
4. main bus bar
5. static contact installation
6. contact box
7. current mutual induction
8. earthed switch
9. cable
10. arrester
11. earthed main bus bar
12. mother board
13. control the small bus bar
14. earthed switch operating mechanism
15. draw-out horizontal clapboard
16. heat installation
17. circuit breaker handcart
18. twice connector
19. clapboard (valve)
20. loading and unloading clapboard
21. decompression channel

XGN66-12 Fixed enclosed switchgear



XGN66-12 Overview

XGN66-12 fixed closed switchgear (hereinafter referred to as switchgear) is a new generation of high-voltage electrical complete sets of our company, in line with national standard GB3906 "3-33kV AC metal-enclosed switchgear" Power Department DLT404 "Indoor AC high voltage switchgear order The requirements of Technical Conditions also meet the requirements of the international standard IEC60298 "AC metal-enclosed switchgear and control equipment below 1kV below 52kV".

The product absorbs foreign advanced technology, its small size is only 50% of the volume of the ordinary switchgear; the circuit breaker has high reliability and good performance; the "five-proof" interlocking mechanism is reliable and simple. The switchgear is a 3.6, 7.2, 12kV three-phase AC 50Hz single busbar segmented indoor unit for receiving and distributing electrical energy. It has the functions of controlling, protecting and monitoring the circuit. It can be used in various types of power plants, substations, industrial and mining enterprises, high-rise buildings, etc., and can also be combined with ring network cabinets for use in opening and closing.

XGN66-12 Model and meaning

X G N 66 - 12 (Z)

- Vacuum switch
- Rated voltage
- Design serial number
- Indoor style
- Fixed type
- Box type switchgear

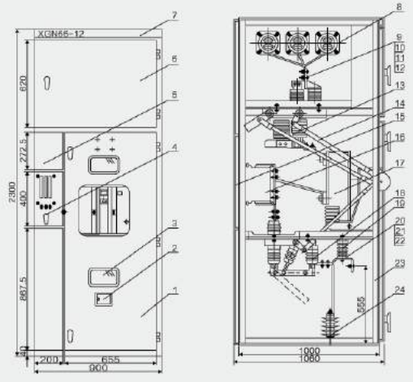
XGN66-12 Structural features

1. The cabinet is welded with high quality angle steel.
2. The circuit breaker room is located in the middle (lower part) of the cabinet, which is convenient for installation, commissioning and maintenance. The standard VS1 circuit breaker is equipped with a pressure relief channel to ensure personal safety.
3. The advanced and reliable rotary isolating switch can safely enter the circuit breaker room for maintenance under the main bus.
4. The whole cabinet protection class IP2X.
5. With a reliable and fully functional mandatory mechanical locking device, it is easy and effective to meet the "five-proof" requirements.
6. Has a reliable grounding system.
7. The observation window is installed on the door, and the working state of the components in the cabinet can be clearly observed.
8. The operating mechanism is locked with the J S X G N locking mechanism for the XGN2 - 2 2 cabinet, which is simple, reliable and convenient.
9. The incoming and outgoing cable is lower than the front of the cabinet for easy connection.

XGN66-12 The main technical parameters

Name	Unit	Data
Rated voltage	kV	3.6，7.2，12
Rated orking frequency endurable voltage	kV	To the ground, phase: 42: Fracture: 48
Rated lightning impulse withstand voltage	kV	To the ground, phase: 75: Fracture: 85
Rated frequency	Hz	50
Rated current	A	630，1250，
Rated short-circuit breaking current (effective value)	kA	20，25，31.5，
Rated short circuit closing current (peak)	kA	50，63，80，
Rated dynamic current (peak)	kA	50，63，80
Rated thermal stability current 4s (RMS)	kA	20，25，31.5
Protection grade		IP2X
The external dimension width X deep X is high	mm	900×1000×2300
Weight	kg	≈ 600

XGN66-12 Main technical parameters of vacuum circuit breaker Main technical parameters



1. Cabinet door
2. flashlight
3. Observed window
4. Operating mechanism
5. small gate board
6. meter door
7. brow
8. Busbar wall bushing
9. bolt
10. washer
11. washer
12. Nut
13. Isolating switch
14. Pull rod
15. Rear sealing board
16. Current transformer
17. Vacuum circuit breaker
18. Isolating switch
19. transducer
20. bolt
21. washer
22. washer
23. scaffolding
24. Surge arrester

LUGAO High voltage switchgear series

D

HXGN □ -12 Unit type AC metal closed ring network switchgear



HXGN □ -12 Overview

HXGN □ -12(SF6) Unit type AC metal-enclosed ring main unit(hereafter refer to as ring net cabinet) is a new generation of high-pressure electric appliance product designed and developed independently by our own company according to the requirement of the domestic agricultural electricity and the city net transformation after introduction of overseas advanced technology. Each technical performance index completely reaches the IEC298 and GB3906 standard.

The loop-net cabinet s main switch, the operating mechanism and the components is made of the ABB Corporation original piece or the SFL-12/24 switch equipment imported overseas and ass-embled at home. We can also install the ABB Corporation original piece of HAD/US type SF according to the request of users. The circuit breaker or the VD4-Svacuum circuit-breaker divide into two kinds: be operated manually and electrically according to the operating mode.

The cabinet body is riveted after processed by numerical control machine tool with reliable mechanical interlocking and the misoperating prevention function. The protection grade reaches IP3X.This product has the remarkable characteristics such as the small volume, light weight, artistic appearance, simple operation, long life, high parameter with no pollution and little maintenance.

HXGN □ -12 Use environmental conditions

1. The altitude should not exceed 2000m.
2. Surrounding air temperature: -25℃ ~+40℃
3. Relative temperature: the daily average value is not higher than 95%, the the monthly average value is nothigher than 90%
4. Surrounding air without caustic gas or ignitable gas, steam and other obvious pollution
5. Without fierce vibration

HXGN □ -12 Model and meaning

H X G N □ - 12 (SF6)

- The cabinet s main switch is SF6
- Voltage grade (KV)
- Design number
- Indoor
- Fixed type
- Box type
- Ring main unit

HXGN □ -12 The main technical parameters

Item	Unit	Parameters
Rated voltage	kV	12
Rated frequency	Hz	50
Main bus bar rated current fuse breaker maximum rated current	A	630/125
Main loop, earthed loop short time endurable rated current	kA/s	20/3
Main loop, earthed loop maximum endurable rated current	kA	50
Main loop, earthed loop short circuit on-and off rated current	kA	50
the opening number of the load switch with full capacity	次	100
The fused breaker opening the current	kA	31.5、40
Rated closed loop opening current	A	630
Rated shift current	A	1600
Machine' life	次	2000
1min line frequency resistance (peak value) recurrence, to the earth/isolation fracture	kV	42/48
The lighting shock resistance (peak value) recurrence, to the earth/isolation fracture	kV	75/85
Secondary loop 1min line frequency voltage resistance	kV	2
Protection grade	IP3X	

HXGN □ -12 Structural features and working principle

The outline structure of the product is referred to as diagram 1 and diagram 2; the installation dimension is referred to as diagram3. This ring network type cabinet makes air as the insulating medium,mainly assembled with ZFN □ -10/630 type vacuum load switch. And there are two cabinet schemes - incoming cabinet and outgoing cabinet.

1. Incoming cabinet scheme

There is a ZFN □ -10/630 type vacuum load switch on the main circuit inside the cabinet with isolating knife, and grounding knife conditionally. The three of them are all installed in one machine stand and there are interlocks among them, so that it is realized to connect the operation of three working stations of bus, isolation and grounding. Inside the cabinet the components such as CT, PY are available.

2.Outgoing cabinet scheme

ZFN □ -10/630 type vacuum load switch, fuse with striker (used as isolating switch) and grounding knife on the main circuit inside the cabinet, and the three working stations oper-ation can be realized. Inside the cabinet the components such as CT/PT and ZNO arrester are available, so the metering cabinet can be omitted. Inside the incoming cabinet and out-going cabinet, there is insulating protecting baffle interlocked with grounding switch. And inside the cabinets ,the mechanical interlocks are adopted between each switch and baffle as well as the cabinet door with the requirement of "five-prevention" and IP2X of the protection degree of the cabinet enclosure.

GCK Low voltage draw-out switchgear complete switchgear



GCK Overview

GCK LV withdrawable switchgear cabinetis applicable to the low voltage distribution system with AC50Hz, rated working voltage 380V. It contains power center (PC) and motor control center (MCC)functions. Each technical parameter all reaches national standards. With characteristics of advanced structure, beautiful appearance, high electric performance, high protection grade, reliable and safe and easy to maintain.It is the ideal distribution device for low voltage power supply system in metallurgy, petroleum, chemical,power, machinery and light weaving industries etc.

The product accords with standards IEC-439, GB7251.1.

GCK Design feature

1. GCK1 and REGCJ1 are assemble type combined structure. The basic skeleton is assembled by adopting special bar steel.
2. Cabinet skeleton, component dimension and starter size change according to basic modulus E=25mm.
3. In MCC project, parts in cabinet are divided into five zones (compartment): horizontal bus bar zone, vertical bus bar zone, function unit zone, cable compartment, and neutral earthing bus bar zone. Each zone is separated mutually for circuit' s normal running and effectively preventing fault expansion.
4. As all structures of framework are connected and firmed by bolts, so it avoids the welding distortion and stress, and upgrades the precision.
5. Strong general performance, well applicability and high standardization degree for components.
6. Draw-out and insert of function unit (drawer) is lever operation, which is easy and reliable with rolling bearing.

LUGAO Low Voltage Switchgear Series

GCK Use environmental conditions

1. Altitude above sea level should not exceed 2000M.
2. Ambient air temperature: -5℃ ~+40℃ and the average temperature should not exceed +35℃ in 24h.
3. Air condition: With clean air. Relative humidity should not exceed 50% at +40℃ .Higher relative humidity is allowed at lower temperature. Ex. 90% at +20℃ .
4. Places without fire, explosive danger, serious pollution, chemical corrosion and fierce vibration.
5. Installation gradient not exceed 5° .
6. Control center is suitable to the transportation and store with following temperature :-25℃ ~+55℃ ,in short time (within 24h) it should not exceed +70℃ .

GCK main technical parameters

Protection grade	IP40、IP30
Rated working voltage	AC、380(V)
Frequency	50Hz
Rated insulation voltage	660V
Working conditions	
Environment	Indoors
Altitude	⩽ 2000m
Ambient temperature	-5℃ ~+40℃
The min temperature under store and transportation	-30℃
Relative humidity	⩽ 90%
Capacity of control motor(kW)	0.4—155

Rated current(A)		
Horizontal bus bar		1600、2000、3150
Vertical bus bar		630、800
Contact connector of main circuit		200、400
Supply circuit		1600
Max current	PC cabinet	630
Power receiving circuit	MCCcabinet	1000、1600、2000、2500、3150
Rated short time withstand current(kA)		
Virtual value		50、80
Peak value		105、176
Line frequency withstand voltage(V/1min)		2500

LUGAO Low Voltage Switchgear Series

GCS Low-voltage withdrawable switchgear



GCS Overview

GCS LV with drawable switchgear(hereinafter referred to as device) is developed according to the requirements from industry competent department, numerous electric users and design unit by original state mechanical department, united design group of power department. It conforms to national conditions and with higher technical performance index, and adapts the demands for power market development and able to compete with available imported products. The device passed the authentication jointly presided by two departments in July 1996 in Shanghai. It obtains the recognition and affirmation from manufacturing unit and power consumer construction.

The device is applicable to the distribution system of power station, petroleum, chemical engineering, metallurgy, weaving and tall building industriesetc. In the places with high automaticity and need computer to joint, such as large-scale power station and petrochemical industry system etc, it is the low voltage complete distribution device used in the generating and power supply system with three-phase AC50(60)Hz, rated working voltage 380V, rated current 4000A and below for distribution, motor central control and reactive power compensation.

The device accords with standards IEC439-1 and GB7251.1.

GCS Design feature

1. Main framework adopts 8MF bar steel. Both sides of bar steel is installed with ϕ9.2mm mounting hole with modulus 20mm and 100mm. Inner installation is flexible and easy.
2. Two types of assembly form design for main framework, full assembly structure and partial (side frame and cross rail) welding structure for user selection.
3. Each function compartment of device is separated mutually. The compartments are divided into function unit compartment, bus bar compartment and cable compartment. Each one hasrelative independent function.
4. Horizontal bus bar adopts cabinet back level placed array pattern for enhancing the capacity of resisting electrodynamic force for bus bar. It is the basic measure for obtaining highshort circuitstrength capacity for main circuit.
5. Cable compartment design makes cable outlet and inlet up and down convenient.

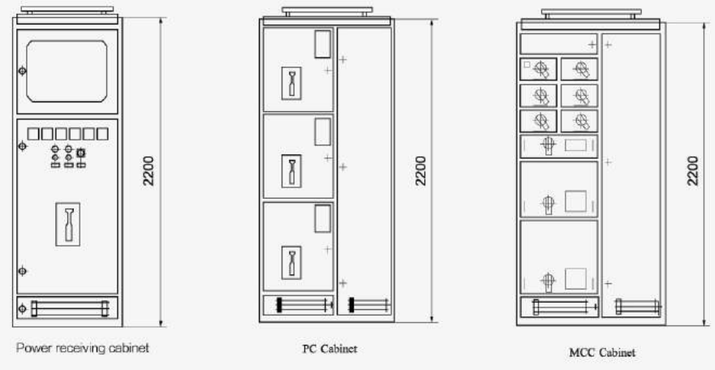
GCS The main technical parameters

Rated voltage of main circuit (V)	
AC 380(400)、 (660)	Rated short time withstand current of bus bar (kA/1s) 50、80
Rated voltage of auxiliary circuit(V)	Rated peak withstand current of bus bar (kA/0．1 s) 105、176
AC 220、380(400)	Line frequency test voltage(V/1min)
DC 110、220	Main circuit 2500
Rated frequency(Hz) 50(60)	Auxiliary circuit 1760
Rated insulation voltage(V) 660(1000)	Bus bar
Rated current(A)	Three-phase four-wire system A.B.C.N
Horizontal bus bar ⩽ 4000	Three-phase ve-wire system A.B.C.PE.N
(MCC) Vertical bus bar 1000	Protection grade IP30、IP40

GCS Use environmental conditions

1. Ambient air temperature: -5℃ ~+40℃ and the average temperature should not exceed +35℃ in 24h.
2. Relative humidity should not exceed 50% at max temperature. Higher relative humidity is allowed at lower temperature. Ex. 90% at +20℃ . But in view of the temperature change, it is possible that moderate dews will produce casually.
3. Altitude above sea level should not exceed 2000M.
4. Installation gradient not exceed 5° .
5. Indoor without dust, corrosive gas and rain water attack.

GCS Internal structure



Power receiving cabinet　PC Cabinet　MCC Cabinet

High (H)	2200									
Wide (W)	400		600		800			1000		
Deep (D)	800	1000	800	1000	600	800	1000	600	800	1000

MNS Low-voltage withdrawable switchgear



MNS Overview

MNS LV withdrawable switchgear (hereinafter referred to as device) is manufactured by standard module through consulting MNS series low voltage switch cabinet of Switzerland ABB Co-mpany, and synthetically improved. The device is applicable to the system with AC 50Hz, rated working voltage 660V and below, used as control device for various power generation, transmission, distribution, power transfer and power consumption device. It is widely used in low voltage distribution system of various mining enterprise, tall building and hotel, municipal construction etc. Besides the general land use, after special disposal, it also can be used for marine petrol drill taken platform and nuclear power station.

The device accords with international standard IEC439-1 and national standard GB7251.1.

MNS Main feature

1. Compact design: Contain more function units with less space.
2. Strong versatility for structure, flexible assembly. C type bar section of 25mm modulus can meet the demands of various structure and type, protection grade and operating environment.
3. Adopt standard module design, can be combined into protection, operation, transfer, control, regulation, measurement, indication etc such standard units. User can choose assembly according to requirement at will. Cabinet structure and drawer unit can be formed with more than 200 components.
4. Fine security: Adopt high strength antiflaming type engineering plastic pack in large quantity to effectively enhance the protective safety performance.
5. High technical performance: Main parameters reach the advanced level at home.

MNS main technical parameters

Rated working voltage(V)	Rated insulation voltage(V)	Rated working current(A)		Rated short-time withstand current RMS (IS) / peak (kA)		Protection grade of shell IP30、IP40
		Horizontal bus bar	Vertica l bus bar	Horizontal bus bar	Vertical bus bar	Outline dimension H×W×D
380、660	660、1000	630-5000	800-2000	50-100/105-250	60/130-150	2200×600(800、1000)×800(1000)

Rated working current of vertical bus bar:
Draw-out type MCC with single side or double sides operation: 800A. MCC with 1000mm depth and single operation: 800~2000A.

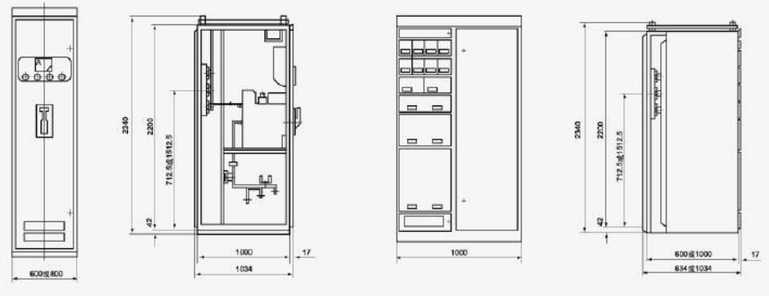
MNS Use environmental conditions

1. Ambient air temperature: -5℃ ~+40℃ and the average temperature should not exceed +35℃ in 24h.
2. Air condition: With clean air. Relative humidity should not exceed 50% at +40℃ . Higher relative humidity is allowed at lower temperature. Ex. 90% at +20℃ . But in view of the temperature change, it is possible that moderate dews will produce casually.
3. Altitude above sea level should not exceed 2000M.
4. The device is suitable to the transportation and store with following temperature :-25℃ ~+55℃ , in short time (within 24h) it reaches +70℃ . Under the limiting temperature, device should not suffer damage that can’ t recover, and it can works normally under normal conditions.
5. If the above operating conditions not meet user’ s demand. Consult with manufactory.
6. Technical agreement should be signed additionally if the device is used for marine petrol drill taken platform and nuclear power station.

MNS Structural features

The basic cabinet of device is combined assembly structure. Basic structural pieces of cabinet is zinc plated, connected and firmed into basic bracket through self tappinglocking screw or 8.8 grade square corner screw. According to the change demand of project, additionally add corresponding gate, closing board,baffle plate, installationsupport and the components of bus bar, function units, to assemble a complete set of device. Perform modulus to interior component and compartment size (Modulus unite=25mm).

MNS Internal structure



PC cabinet　　Draw-out type MCC cabinet (Single side operation)

LUGAO Low Voltage Switchgear Series

GGD AC low-voltage fixed switchgear



GGD Overview

GGD AC LV fixed type switchgear is applicable to the distribution system with AC 50Hz, rated working voltage 380V, rated current to 3150A below in power station, substation, plant enter-prise etc., used for power transfer, distribution and control for power, lighting and distribution devices.

The product has characteristics of high breaking capacity, fine dynamic and thermal stability, flexible electric project, convenient combination, better serial practicability, novel structure and high protection grade etc.

It accords with the standards IEC439 "Low voltage complete switch device and control device" and GB7251.1 "Low voltage complete switch device" etc.

GGD Main feature

1. The body of GGD AC LV fixed type switchgear adopts universal cabinet type. Framework is assembled with 8MF cold bending bar steel through part welding. Framework components and special mating elements are matched by bar steel pointed manufactory for ensuring the precision and quality of cabinet. Components of universal cabinet is designed according to module principle,and with20 modulus mounting hole and high universal coefficient.
2. Completely in view of the heat rejection during cabinet running. Heat rejection slots of different quantities are installed in upper and underside both ends of cabinet.
3. According to the requirements on mold design for modern industry products, adopting the method of golden mean ratio to design cabinet outline and parting dimensions of each part, to make the whole cabinet beautiful and decent.
4. Cabinet gate is connected with framework with rotation axis type movable hinge. With convenient installation and disassembly. One mount type rubber strip is set in edge fold of gate. Filler rod between gate and framework has certain compression stroke when closing the gate. It can prevent gate from impacting cabinet directly and also advance the protection grade for gate.
5. Connect the meter gate set with electrical components with framework by multistrand soft copper wire.Connect the mounting pieces inside the cabinet with framework by knurled screws.The whole cabinet constructs complete earthing protective circuit.
6. Top cover of cabinet can be disassembled if necessary for convenience to the assembly and adjustment for main bus bar at site. Four squares of cabinet are set with slinger for hoisting and shipping.
7. Protection grade of cabinet: IP30. User can choose within IP20~IP40 according to environmental requirements.

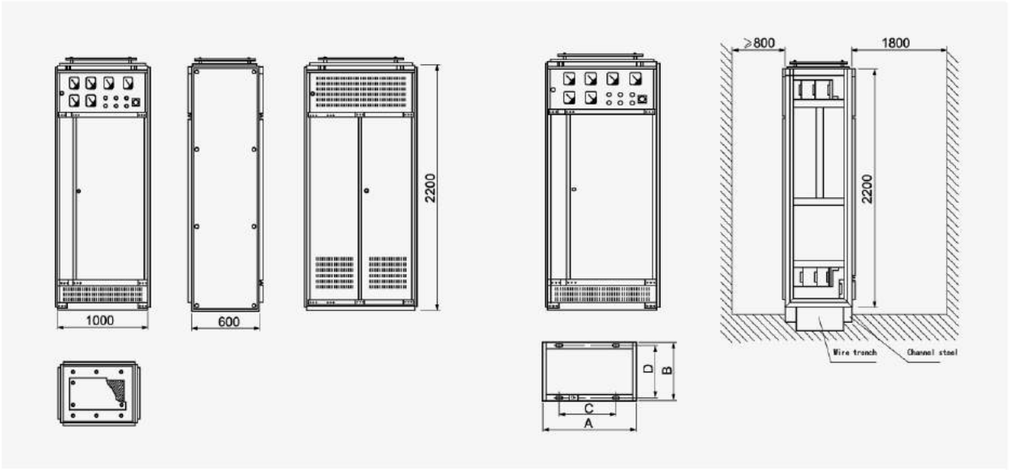
GGD main technical parameters

Type	Rated voltage(V)	Rated current(A)	Rated short circuit breaking current(kA)	Rated short time withstand current(kA)	Rated peak withstand current(kA)
GGD1	380	1000 600(630) 400	15	15(1S)	30
GGD2	380	1500 1600 1000	30	30(1S)	63
GGD3	380	3150 (2500) 2000	50	50(1S)	105

GGD Use environmental conditions

1. Ambient air temperature: -5°C ~+40°C and the average temperature should not exceed +35°C in 24h.
2. Install and use indoors. Altitude above sea level for operation site should not exceed 2000M.
3. Relative humidity should not exceed 50% at max temperature +40 °C . Higher relative humidity is allowed at lower temperature. Ex. 90% at +20°C . But in view of thetemperature change, it is possible that moderate dews will produce casually.
4. Installation gradient not exceed 5° .
5. Install in the places without fierce vibration and shock and the sites insufficient to erode the electrical components.
6. Any specific requirement, consult with manufactory.

GGD Internal structure



Product code	A	B	C	D
GGD06	600	600	450	556
GGD06A	600	800	450	756
GGD08	800	600	650	556
GGD08A	800	800	650	756
GGD10	1000	600	850	556
GGD10A	1000	800	850	756
GGD12	1200	800	1050	756

XL-21 low voltage power distribution cabinet



Overview

XL-21 Type low voltage power distribution cabinet is applicable to power station and industrial and mining enterprise, used for power distribution in three-phase four-wire or three-phase five-wire system with AC 500V and below. It is installed indoors and near the wall. Repair before shield. Shell is bent with steel plate. Knife switch operation handle is installed to the upside of right column of cabinet front, can be used for switching power. Choose different types and circuit breakers with different current grades to user's specific requirements.

Model and meaning

X L - 21 - □

- Scheme No.
- Design No.
- Power
- Control box

Use environmental conditions

1.Ambient temperature:-50℃ ~+40℃ , and the average temperature within 24 hours shall not exceed+36℃ ;

2.Altitude: no more than 2000 m;

3.Relative humidity: not more than 50% when ambient air humidity is+40℃ ; Under lower humidity, it can have higher relative humidity (e.g.:+20℃ is 90%). Considering the change of temperature, it is allowed to produce moderate frost:

4.The inclination of the equipment to the vertical plane shall not exceed 5 during installation, and the equipment shall be installed in a place free from severe vibration, impact and corrosion.

Main Technical Parameters

Item	U nit	Pararneters
Rated working voltage	V	AC380、AC660
Rated frequency	HZ	50/60
Rated short time withstand current (1s)	kA	50
Rated peak withstand current	kA	105
Dielectric strength	V/1min	2500
Rated insulation voltage	V	660
Protection grade		IP30/IP40
Outline dimension (W×D×H)	mm	600(800、1000) x 350(400、600) x1600(1800)

Use, maintenance

After the power distribution box is installed or overhauled, the following inspections and tests shall be carried out before it is put into operation (the inspections and tests after overhaul depend on the quality of overhaul).

1.Check whether the electrical equipment and secondary wiring installed inside the power distribution cabinet meet the drawing requirements.

2.Check whether the knife switch and air switch used for operation are flexible, and there should be no sticking and rolling pattern.

3.Check whether the electrical equipment installed has good contact and meets the use requirements of the electrical equipment itself.

4.Check whether there are any other foreign matters in the power distribution cabinet and whether the strong screws in each part are loose.

ZN63(VS1)-12 Series vacuum circuit breaker



Overview

VS1 (650MM) series Vacuum Circuit Breaker is an indoor type high voltage equipment with rated voltage 7.2-11kv, 50HZ.

It complies with GB/T 1984, JB3855 and related IEC Standards. It can be frequently operated and has function of more times breaking capacity and fast reclosing. The Circuit Breaker is designed as front and backside structure, it can be used as fixed type and also can be used with withdraw truck.

Use environmental conditions

1. Ambient temperature: not higher than 40 °C , not lower than - 10 °C (allowed to be stored and transported at - 30 °C)
2. Altitude: no more than 1000m. If the altitude is increased, the rated insulation level will be increased accordingly)
3. Relative humidity: the daily average value shall not be greater than 95%, the daily average value of saturated vapor pressure shall not be greater than 2.2×10^{-3}mpa, and the monthly average value shall not be greater than 1.8×10^{-3}mpa.
4. Seismic intensity: no more than 8.
5. Places without fire, explosion, serious pollution, chemical corrosion and severe vibration.

Technical Parameters

si.No	Item		Unit	Data		
01	Rated voltage		kV	12		
02	Maximum working voltage		kV	12		
03	Rated Current		A	630~1250	630~1600	630~1600
04	Rated short circuit breaking current		kA	20	25	31.5
05	Rated short-circuit switching current		kA	50	63	80
06	Rated peak withstand current		kA	50	63	80
07	4S rated short-circuit withstand current		kA	20	25	31.5
08	Rated insulation level	1min Power frequency withstand voltage(rated breaking before and after)	kV	42(fracture 48)		
		Impulse withstand voltage(rated breaking before and after)		75(fracture 84)		
09	Rated operating sequence			O-0.3S-CO-180S-CO		
10	Mechanical life		Times	10000		
11	Rated short-circuit current breaking times		Times	50		
12	Rated Operating Mechanism Closing Voltage(DC)		V	AC、DC 110、220		
13	Rated Operating Mechanism Opening Voltage(DC)		V	AC、DC 110、220		
14	Contact opening distance		mm	11 ±1		
15	Overtravelfthe length of contact spring compression)		mm	3.5 ±0.5		
16	Closing/Opening Time Difference Among Three Phase		ms	⩽ 2		
17	Contact closing bounce time		ms	⩽ 2		
18	Average opening speed		m/s	0.9~1.2		
19	Average closing speed		m/s	0.5-0.8		
20	Tripping Time	Maximum operating voltage	s	⩽ 0.05		
		Minimum operating voltage		⩽ 0.08		
21	Closing time		s	0.1		
22	The main circuit resistance of each phase			630 ⩽ 50	1250 ⩽ 45	1600 ⩽ 40
23	Allowed Consumpted thickness of Contacts		mm	3		

Outline & Mounting Dimensions:

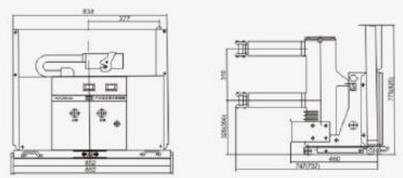


Figure1:withdraw Type

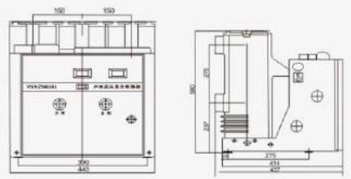


Figure2:Fixed Type

VS1-24 Indoor high voltage vacuum circuit breaker



Overview

The VS1-24 indoor high-voltage vacuum circuit breaker is an indoor switchgear for a three-phase AC 50Hz rated voltage of 24kV power system. It is used as a protection and control unit for power grid equipment and industrial and mining enterprise power equipment. It is suitable for places requiring frequent operation under rated working current, or multiple interruption of short-circuit current.

The circuit breaker adopts an integrated design of the operating mechanism and the circuit breaker body, which can be used as a fixed installation unit or equipped with a dedicated propulsion mechanism to form a handcart unit.

Model meaning

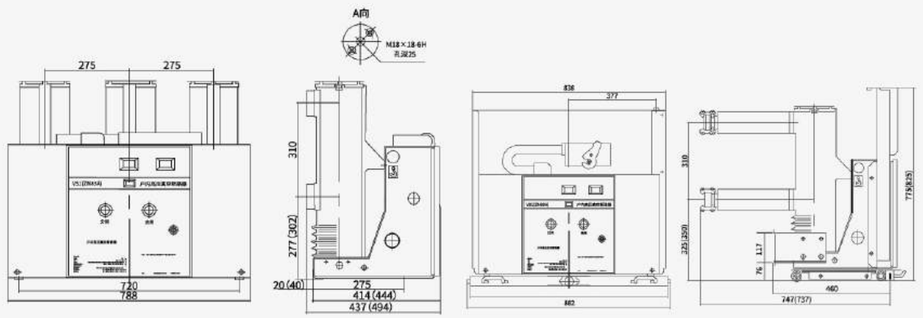
VS 1 - 24 / □ - □

- Rated short-circuit breaking current (kA)
- Rated current (A)
- Rated voltage (kV)
- Design Number
- Vacuum circuit breaker

Technical Parameters

si.No	Item	Unit	Data		
01	Rated voltage	kV	24		
02	Rated short time power frequency withstand voltage (1min)	kV	65/79(Interphase/ ground / fracture)		
03	Rated lightning impulse withstand voltage (peak value)	kV	125/145(Interphase/ ground / fracture)		
04	Rated frequency	Hz	50		
05	Rated current	A	630 1250	630 1250 1600 2000 2500 3150	630 1250 1600 2000 2500 3150
06	Rated short circuit breaking current	kA	20/25	31.5	40
07	Rated short time withstand voltage	kV	20/25	35.5	40
08	Rated short circuit duration	s	4		
09	Rated peak withstand current	kA	50/63	80	100
10	Rated short circuit making current	kA	50/63	80	100
11	Power frequency withstand voltage of secondary circuit (1min)	V	200		
12	Rated single / back to back capacitor bank breaking current	A	630/400(40kA 为 800/400)		
13	Making inrush current of rated capacitor bank	kA	12.5(Frequency not greater than1000Hz)		
14	Mechanical life	次	20000		
15	Rated current breaking times (electrical life)	次	20000		
16	Breaking times of rated short circuit current	次	50(40kA ≤ 30)		
17	Allowable accumulated wear thickness of moving and stationary contacts	mm	3		
18	Energy storage time	s	≤ 10		
19	Contact opening distance	mm	16±1		
20	Overtravel	mm	3.5±0.5		
21	Contact closing bounce time	ms	≤ 2(40kA ≤ 3)		
22	Three phase opening and closing time	ms	≤ 2		
23	Average opening speed (contact separation - 8mm)	m/s	1.5±0.2		
24	Average closing speed (8mm contact closing)	m/s	0.8±0.2		
25	Resistance of main electric circuit	μΩ	≤ 50(630A) ≤ 45(1250A) ≤ 35(1600-2000A) ≤ 25(2500A 以上)		
26	Rated operation sequence		O-0.3S-CO-180S-CO		

Outline And Installation Dimension



LUGAO Outdoor Vacuum Circuit Breaker Series

ZN85-40.5 Indoor high voltage vacuum circuit breaker



Overview

ZN85-40.5 series of indoor high voltage vacuum circuit breaker (hereinafter referred to as circuit breaker), for three-phase AC 50Hz, rated voltage 40.5kV power system for industrial and mining enterprises, power plants and substations as a division Load current, overload current, fault current. The circuit breaker and the operating mechanism adopt the upper and lower arrangement structure, which effectively reduces the depth of the circuit breaker.

The three-phase interrupter and the associated charged body are separated by three independent epoxy insulating sleeves to form a composite insulation structure. The circuit breaker meets the requirements of the air and distance during normal operating conditions and effectively reduces the The size of the circuit breaker. The main conductive circuit vacuum interrupter and dynamic and static conductive connection installed in the insulation tube, so that the phase spacing of only 300mm. The main circuit electrical connection all use fixed connection, with high reliability. The insulating cylinder is mounted above the circuit breaker frame.

For this new type of circuit breaker designed specifically for the spring operating mechanism, installed in the circuit breaker frame, the structural characteristics of the circuit breaker is more suitable for the upper and lower layout, and become the overall structure of the circuit breaker inseparable one section. The design of the machine is simple, the output curve and its performance are more suitable for the characteristics and requirements of 40.5kV vacuum circuit breaker.

The overall layout is reasonable, beautiful, simple. Small size, flexible operation, with reliable electrical performance, long life, easy maintenance, maintenance-free features of the organization.

The circuit breaker for frequent operation and a variety of occasions and operating conditions more harsh places.

Model and meaning

ZN 85 - 40.5C / 2000 - 31.5

- 31.5 — Rated short circuit breaking current
- 2000 — Rated current
- 40.5C — Rated voltage
- 85 — Design Number
- ZN — Indoor vacuum circuit breakers

Use environmental conditions

1. Ambient air temperature: ⩽ 40°C ; daily average temperature ⩽ 35°C ; the minimum ambient air temperature of -15°C .

2. Air relative humidity: daily average of not more than 95%, the monthly average of not more than 90%; water vapor pressure daily average of not more than 2.2kPa; monthly average of not more than 1.8kPa;

3. Altitude: not more than 1000m;

4. There is no obvious contamination of dust, smoke, corrosive and / or flammable gases, steam or salt fog;

5. From the switchgear and control equipment outside the vibration or ground is negligible;

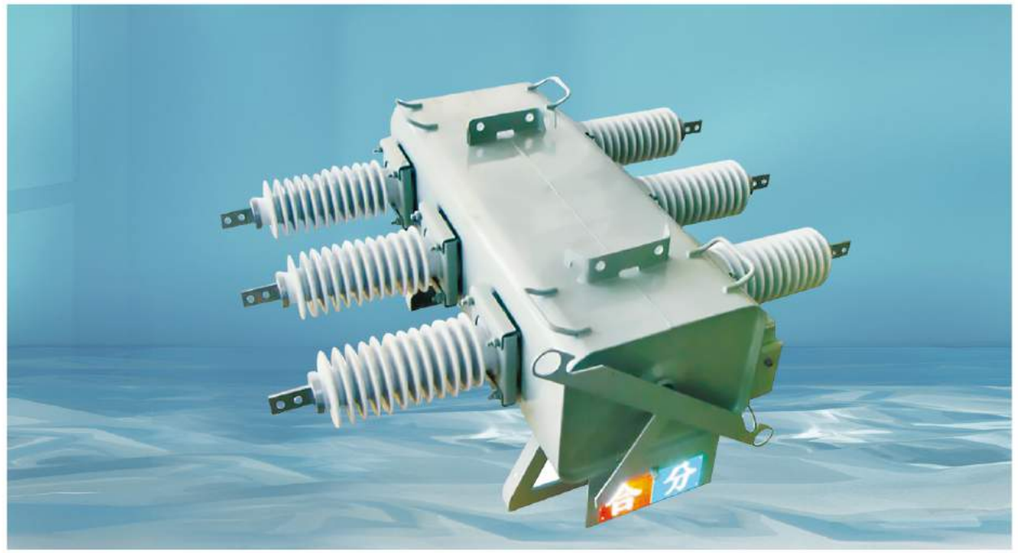
6. The amplitude of the electromagnetic interference induced in the secondary system does not exceed 1.6kV.

7. Special conditions of use Installation site at an altitude of more than 1000m, the ambient air temperature exceeds the normal conditions of use of the limits or high humidity easy to produce condensation， please consult witii our custom.

technical parameter

Name	unit	Data
Rated voltage	kV	40.5
Imin power frequency withstand voltage (RMS)	kV	95
Lightning impulse withstand voltage (peak)	kV	185
Rated frequency	Hz	50
Rated current	A	125,016,002,000
Rated short time withstand current	kA	25,31.5
Rated peak withstand current	kA	63,80
Rated short circuit duration	s	4
Rated short circuit breaking current	kA	25,31.5
Rated short circuit closing current	kA	63,80
Rated operating sequence		O-0.3s-CO-180s-CO
Breaking time	ms	<80
Rated short circuit breaking current breaking times	次	20
Single capacitor bank breaking current	A	630
Back-to-back capacitor bank breaking current	A	400
Rated operating voltage	V	AC110,220;DC110,220
Mechanical life	次	10000

LW□-12 Primary and secondary fusion SF6 circuit breaker



Overview

LW □ - 12-secondary fusion SF6 circuit breaker (hereinafter referred to as the circuit breaker) is a new generation product developed by our company according to the requirements of the State Grid primary and secondary integration pole switch. The circuit breaker meets the requirements of State Grid primary and secondary integration pole switch, and has the advantages of compact structure, reasonable layout and complete functions. All indicators of the circuit breaker meet the requirements of State Grid primary and secondary integration column switch, and pass the special test of primary and secondary integration of China Electric Power Research Institute Co., Ltd. The circuit breaker adopts three-phase protection current transformer, zero sequence current transformer and zero sequence voltage sensor with unified parameters. It has the characteristics of wide measurement range, high measurement accuracy and high reliability. With the cooperation of primary and secondary fusion controller, it can quickly and accurately determine various faults of the line.

Normal use environment

1. Ambient air temperature: - 40 °C ~ + 40 °C ;
2. Altitude: no more than 3000m;
3. The surrounding air can be polluted by dust, smoke, corrosive gas, steam or salt mist, and the pollution level is grade IV;
4. The wind speed should not exceed 34m / S (equivalent to 700pa on the cylinder surface);
5. Vibration or ground motion from the outside of switchgear and control equipment can be ignored; The amplitude of induced electromagnetic interference in 10kV system does not exceed 1.

LUGAO Outdoor Vacuum Circuit Breaker Series

Technical parameters

The circuit breaker is equipped with three-phase current transformer, and the main parameters are shown in Table 3

Table 3 main parameters of current transformer

No	Project	Company	parameter	
01	Rated current ratio		600/1	600/S
02	Accuracy level	second	0.5/5P10	
03	Polarity		Depolarization	
04	Rated load	VA	1	2.5

Table 4 main parameters of zero sequence current transformer

Table 4 main parameters of current transformer

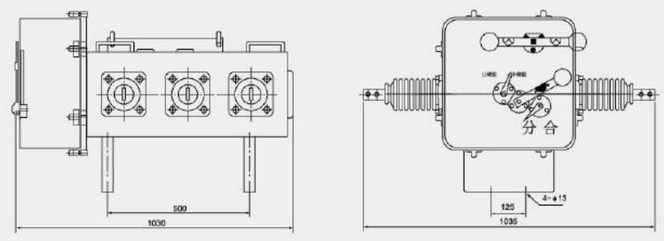
No	Project	Company	parameter
01	Rated current ratio		20/1
02	Accuracy level	level	When the input current of primary side is 1a to rated current, the relative error is ⩽ 3%, and when the primary current input is 100A, the relative error of protection is ⩽ 10%
03	Polarity		Depolarization
04	Rated load		0.5VA

The circuit breaker has built-in zero sequence voltage sensor, and the main parameters are shown in Table 5

Table 5 main parameters of zero sequence voltage sensor

No	project	Company	parameter
01	Change ratio		(10kV 3)/(6.5V/3)
02	Accuracy level	level	3P
03	Partial discharge	PC	⩽ 20 (1.2Um/√3)
04	Insulation resistance after combination with switch (switch to ground)	MΩ	> 1000
05	Implementation mode		Capacitance partial voltage

The circuit breaker body adopts 26 core aviation socket outlet, and the definition of aviation plug meets the technical requirements of State Grid primary and secondary integration column switch.



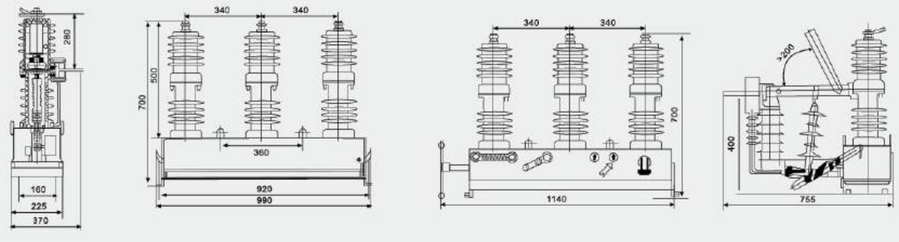
ZW32-12~33kV Outdoor Permanent-magnetic Vacuum Circuit Breaker



ZW32-12~33kV Overview

ZW32-12~33kV type outdoor high voltage VCB, is suitable for the 3-phase power system with AC 50HZ, voltage 10-12KV, used as breaking, closing load current. It has the function of overload and short circuit protection, can meet the requirements of controlling and measurement. It also can be used as remote control, monitoring, etc. It is suitable for controlling and protecting equipment for substation and mining enterprises power system, also suitable for the places with frequently operation in rural power grid.

ZW32-12~33kV Outline & Mounting Dimensions



ZW32-12~33kV The main technical parameters

No	Item			Unit	Data	
1					12	24
2	Rated insulation level	1min power frequency withstand voltage	Dry	kV	42	65
			Wet		34	50
		Lightning impulse withstand voltage(peak)			75	1250
3		Rated Current		A	630;400;200	630;400;200
4		Rated short circuit breaking current		kA	20;16;12.5	20;16;12.5
5		Rated operating sequence			O-0.3S-CO-180S-CO	O-0.3S-CO-180S-CO
6		Rated short-circuit breaking times		Times	30	30
7		Rated short-circuit switching current(peak)		kA	50	50
8		Rated peak withstand current				
9		Rated short-circuit withstand current			20	20
10		Rated short circuit duration		s	4	4
11	Opening time(Shunt trip)	Maximum operating voltage		ms	15-50	15-50
		Rated operating voltage				
		Minimum operating voltage			30-60	30-60
12		Closing time		ms	25-50	25-50
13		Full-off time			⩽ 100	⩽ 100
14		Arcing time			20	20
15		Mechanical life		Times	1000	1000
16		Charging motor rated input power		w	40	40
17		Rated operating voltage and auxiliary voltage circuit		v	DC220、110、24	DC220、110、24
					AC220、110、24	AC220、110、24
18		Rated voltage of the storage time		S	⩽ 10	⩽ 10
19	Over current Release	Rated Current		A	5	5
		Trip current Accuracy			±10	±10

LUGAO Outdoor Vacuum Circuit Breaker Series

ZW7-40.5 Series outdoor high voltage vacuum circuit breaker



Overview

ZW7-40.5 series VCB, is outdoor high voltage switch equipment with rated voltage 40.5KV, 3-phase AC 50HZ. With theit can be open or close in remote controlling, or energy in manual charging, to open or close by hand. Design can meet the requirements of GB1984 "AC HIGH VOLTAGE BREAKERS", and comply with the requirements of C62271:100 "HIGH VOLTAGE BREAKER" by International Electro technical Commission. ZW7-40.5 VCB, is mainly used for controlling and protection of the 35KV outdoor transmission system. It is also suitable for normal operation or short circuit protection of urban distribution, rural distribution and mining enterprises power system. The overall structure of this kind of product is porcelain supporting type. Vacuum Interrupter is installed in upper porcelain, below is supporting porcelain. It is suitable for places need frequently operation, with features of good sealing, age-resistance, anti-high voltage, no burning, no explosion, long endurance life, easier for installing and maintenance, etc.spring actuator or electromagnetic actuator.

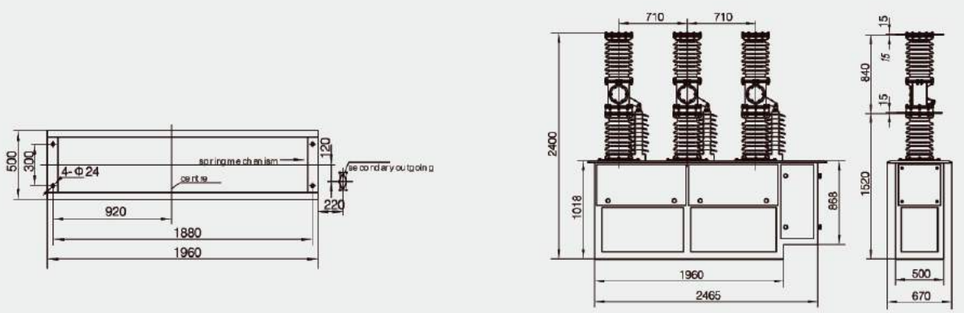
Use environmental conditions

1. Ambient air temperature: upper limit + 40 °C , lower limit - 30 °C (general area), - 40 °C (alpine region);
2. Altitude: ⩽ 1000m (if the altitude increases, the rated insulation level will be increased accordingly);
3. Wind pressure: no more than 700pa (equivalent to wind speed of 34m / s);
4. Seismic intensity: no more than 8 degrees;
5. Pollution level: grade IV;
6. Maximum daily temperature difference: no more than 25 °C .

Main Technical Parameters(12kv)

si.No	Item			Unit	Data	
01	Rated voltage			kV	40.5	
02	Rated Current			A		
03	Rated short circuit breaking current			kA	20	25
04	Rated short-circuit current(peak)				50	63
05	Rated short(thermal stable)current				20	25
06	Rated peak withstand(dynamic stable)current				50	63
07	Rated short circuit duration			S	4	
08	Rated insulationlevel(lmin)	1min power frequancy withstand voltage	Dry	kV	95	
			Wet		80	
		Lightning impulse withstand voitage(peak)			185	
09	Rated operating sequence			Times	20	
10	Rated short-circuit current breaking times			ms	⩽ 80	
11	Full-off time(with spring operating mechanism)				O-0.3S-CO-180S-CO	
12	Mechanical life				10000	
13	Rated operating voltage				AC110,220,DC110,220	
14	Contact opening distance				20	
15	Contact over-travelling distance				5± 1	
16	Bounce time				⩽ 5	
17	DC resistance per phase circuit				⩽ 120	
18	Circuit Breaker Dimensions(LxWxH)				2460 x 2400 x 500	
19	Total Weight With Mechanism			kg	1100	

Outline & Mounting Dimensions:



LUGAO Outdoor Vacuum Circuit Breaker Series

ZW20-12F Outdoor high voltage vacuum circuit breaker



Overview

ZW20-12F/T □ - □ series outdoor high-voltage vacuum circuit breakers (hereinafter referred to as circuit breakers) are outdoor distribution equipment with rated voltage of 12kV and three-phase AC of 50Hz. It adopts vacuum arc extinguishing and As an insulating medium, SF6 gas is an improved product of ZW20-12F post vacuum circuit breaker. The gas sealing, explosion-proof and insulation structure technology imported from Japan Toshiba VSP5 is adopted. The sealing performance of the inlet and outlet conduit has also been improved, and the overall sealing performance is excellent. The SF6 gas filled inside does not leak and is not affected by the external environment; Its spring operating mechanism is miniaturized and Reliability and stability optimization, using direct chain main drive and multi-stage tripping system, the action reliability and stability are improved several times compared with the traditional spring operating mechanism in China; Axis and sleeve of main circuit The contact between them adopts the adduction and extension bracelet structure, and the contact resistance of the main circuit is small and the temperature rise is low. Therefore, ZW20-12F outdoor post vacuum circuit breaker is a maintenance-free product, which is a post break The best product in road equipment.Compared with ZW20-12F, ZW20-12F also adds overcurrent protection and mechanism spring energy storage indication, and is equipped with aviation socket for secondary electrical connection, which is convenient to combine with intelligent controller. fine The electrical and mechanical properties make

ZW20-12F outdoor post vacuum circuit breaker widely used. It is mainly used to switch on and off the load current and short-circuit current of 10kV power system, and is suitable for transformer It is used for protection and control in distribution systems of power stations and industrial and mining enterprises, and is more suitable for places where power grids are frequently operated. This product is matched with the controller and has excellent recloser function, which can meet the automatic distribution Chemical system requirements.

LUGAO Outdoor Vacuum Circuit Breaker Series

Model and meaning

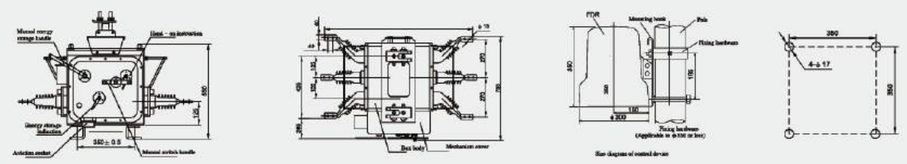
ZW 20 - 12 F / T □ - □

- Rated short circuit breaking current (kA)
- Rated current (A)
- Operation structure of spring operation
- Rated voltage (kV)
- Design no
- Vacuum circuit breaker

Main Technical Parameters(12kv)

Number	Projects		Unit	Data	
01	Rated voltage		kV	12	
02	Rated frequency		Hz	50	
03	Rated current		A	630	1000
04	Rated short circuit breaking current		kA	20	25
05	Rated peak withstand current		kA	50	63
06	Rated short-term withstand current		kA	20	25
07	Rated short circuit closing current		kA	50	63
08	Rated operating sequence			points-0.3s-Combined points-180s-Combined points	
09	Mechanical life		times	10000	
10	Rated current cut-off times		times	10000	
11	Rated short circuit breaking times		times	30	
12	Power frequency withstand voltage 1min	(wet)phase-phase,fo gronnd	kV	34	
		(dry)phase-phase,fo gronnd	kV	42/48	
13	Lightning impulse withstand voltage	Interphase, ground/fracture	kV	75/85	
14	1 min power frequency withstand voltage of secondary circuit		V	2000	
15	Weight		kg	约 140	
16	Contact spacing		mm	9	
17	Contact stroke of contact		mm	3	
18	Average opening speed		m/s	1.2±0.2	
19	Average closing speed		m/s	0.6±0.2	
20	Rated operating voltage		V	AC/DC220	
21	The rated pressure of SF6 gas (gauge pressure)		MPa	0	

Outline & Mounting Dimensions:



LUGAO Molded case circuit breaker series

LGW1 Series intelligent universal circuit breaker



Model and meaning

LG W 1 - G / M

- M — Number of poles (4 for four poles, not for three poles)
- G — Rated current of circuit breaker at frame level
- 1 — Design No
- W — Universal circuit breaker
- LG — Enterprise code

Classification

·According to the installation method: A, fixed B, drawer type
·According to the number of poles: three pole and four pole
·According to the operation mode: A. electric operation B. manual operation (for maintenance)
·Type of release: intelligent over-current controller, under voltage instantaneous (or delay) release, shunt release.
·Performance of intelligent over-current controller:
a. The intelligent controller is divided into H type (for communication), M type (for general intelligence) and L type (for economy);
b. It has the functions of overload long time delay inverse time limit, short time delay inverse time limit, timing limit and instantaneous. The user can set the required protection characteristics by himself;
c. Single phase grounding protection function;
d. Display function: set current display, action current display and line voltage display (voltage display shall be put forward when ordering);
e. Alarm function: overload alarm;
f. Self check function: overheat self check, microcomputer self diagnosis;
g. Test function: test the action characteristics of the controller.

Technical data and performance

See table I for rated current of circuit breaker

Rated current of shell frame class INM (a)	Rated current in (a)
2000	(400)630、800、1000、1250、1600、2000
3200	2000、2500、2900、3200
4000	3600、4000
6300	4000、5000、6300

·The rated short-circuit breaking capacity and short-time love resistant current of the circuit breaker are shown in Table 2. The arc flying distance of the circuit breaker is "zero" (i.e. there is no arc outside the circuit breaker)

Rated current of shell frame class INM (a)		2000	3200/4000	6300
Rated limit short-circuit breaking capacity ICU (KA) o-co	400V 690V	65 50	100 65	120 85
Rated operation short-circuit breaking capacity ICs (KA) o-co-co	400V 690V	50 40	80 65	100 75
Rated short-time withstand current ICW (KA) delay 0.4s, o-co	400V 690V	50 40	80 50	100 75

Note: the upper and lower incomers of breaking capacity in the table are the same.

·The maximum loss power of the circuit breaker is 360W, and the rated continuous current variation of the circuit breaker under different ambient temperatures is shown in table III.

Ambient temperature °C	Rated current in						
	400A	630A	800A	1000A	1250A	1600A	2000A
40	400A	630A	800A	1000A	1250A	1600A	2000A
50	400A	630A	800A	1000A	1250A	1500A	1900A
60	400A	630A	800A	1000A	1250A	1500A	1800A

·Protection characteristics and functions of M-type intelligent over-current controller
·Protection characteristics of over current controller
·The setting value IR (I / in) and error of the controller are shown in table IV.

Long time delay IR1	Short delay		instantaneous		Earth fault	
	Ir2	error	Ir3	error	Ir4	error
(0.4-1)In	(0.4-15)In	±10%	In-50kA(Inm=2000A) In-75kA(Inm=3200A) In-750kA(Inm=4000A) In-100kA(Inm=6300A)	±15%	Inm=2000~6300A (0.2-0.8) In (maximum1200A, minimum160A)	±10%

Note: when there are (required) three sections of protection at the same time, the setting value cannot be crossed.

LUGAO Molded case circuit breaker series

LGM1L Series Molded Case leakage circuit breaker



Outline

LGM1L series leakage circuit breakers (hereinafter referred to as circuit breakers) are mainly used in the distribution network with AC 50Hz, rated voltage of 400V and rated current of 630A, to provide indirect contact protection for people, to prevent the fire hazard caused by ground fault current caused by equipment insulation damage, and to distribute electric energy and protect overload and short circuit of lines and power equipment, It can also be used for infrequent switching of lines and infrequent starting of motors.

This product conforms to gb14048.2 and iec60947-2 standards.

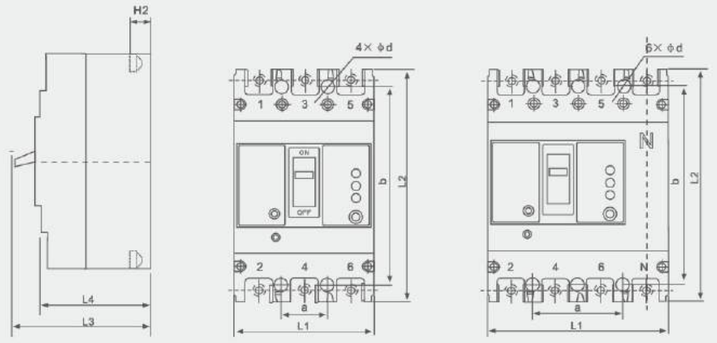
Code of accessories in tripper mode

Attachment name		Without accessories	Alarm contact	hunt release	Auxiliary contact	Undervoltage release	Auxiliary contact Alarm contact
Release mode	Instantaneous release	200	208	210	220	23	228
	Multiplerelease	300	308	310	320	330	328

Main technical parameters

model	Rated current of shell frame class Inm (A)	Rated current In(A)	Un (V)	Number of poles	Rated residual action current I△n (mA)	Rated residual non working currentI△n(mA)	Rated limit short circuit breaking capacityIcu	Rated operating short-circuit breaking capacityIcs	Arcing distancemm
LGM1L-125	125	16,20,25,32 40,50,60,80 100,125	230	2	30,50,100 200,300 500	15,25 50,100 150,250	50KA	35KA	⩽ 50
			400	3,4,3N					
LGM1L-250	250	100,125,140 160,180,200 225,250	400	3,4,3N	50,100 200,300 500	25,50 100,150 250	50KA	35KA	⩽ 50
LGM1L-400	400	225,250,315 350,400	400	4,3N	100,200 300,500	50,100 150,250	65KA	50KA	⩽ 100
LGM1L-400	630	400,500 630	400	4,3N	100,200 300,500	50,100 150,250	65KA	50KA	⩽ 100

Outline and installation dimension



Circuit breaker model

model	Number of poles	Boundary dimension				Installation dimension		
		L1	L2	L3	L4	a	b	d
LGM1L-125	3	92max	150max	110max	92max	30	129	Φ4.5
	4	122max	150max	110max	92max	60	129	Φ4.5
LGM1L-250	3	107max	165max	110max	90max	35	126	Φ4.5
	4	142max	165max	110max	90max	70	126	Φ4.5
LGM1L-400	3	150max	257max	146max	106max	44	194	Φ7
	4	198max	257max	146max	106max	44	194	Φ7
LGM1L-630 LGM1L-800	3	210max	280max	155max	116max	70	243	Φ7
	4	280max	280max	155max	116max	70	243	Φ7

LUGAO Molded case circuit breaker series

LGM1 Moulded case circuit breaker



Scope of application

LGM1 series plastic case circuit breaker (hereinafter referred to as circuit breaker) is a new type of circuit breaker developed by our company with international advanced design and manufacturing technology. Its rated insulation voltage is 800V, suitable for AC 50Hz, rated working voltage 690V and below, rated working current from 10a to 1250A for infrequent switching and motor infrequent starting (ZWM1-800 and ZWM1-1250 have no motor protection). The circuit breaker has overload, short circuit and undervoltage protection functions, which can protect the line and power equipment from damage. The circuit breaker of this series has the characteristics of compact structure, small volume, high breaking height, short flashover and complete internal and external accessories.

Standard: iec60947-1 and GB / t14048.1 general rules for low voltage switchgear and control equipment
iec60947-2 and GB / t14048.2 low voltage switchgear and controlgear low voltage circuit breakers
iec60947-4 and GB / t14048.4 electromechanical circuit breakers and motor starters
iec60947-5-1 and gbat14048.5 electromechanical control circuit apparatus

Normal working conditions and installation conditions

Accession The altitude of the installation site shall not exceed 2000m;
Accession The ambient air temperature is - 5 ℃ ~ + 40 ℃ , and the average value of 24 hours is not more than + 35 ℃ ;
Accession The relative air humidity of the installation site shall not exceed 50% when the maximum temperature is + 40 ℃ ; the relative humidity may be higher when the temperature is lower, and the monthly average minimum temperature of the wettest month shall not exceed + 25 ℃ ; the monthly average minimum temperature shall not exceed + 25t:; the monthly average maximum relative humidity shall not exceed 90%, and the condensation on the product surface due to temperature change shall be considered;
Accession The pollution level is 3;
Accession The safety category of main circuit and under voltage release of the circuit breaker is III, and the installation category of other auxiliary circuits and control circuits is II;
Accession It can withstand the influence of humid air, salt fog, oil pollution, mould and nuclear industrial environment;
Accession It shall be installed in a place without explosion hazard, conductive dust, metal corrosion and insulation damage;
Accession There is no rain or snow at the installation site;
Accession The circuit breaker has the isolation function, and the symbol is ⊣×⊢。

Tripping mode and accessory code

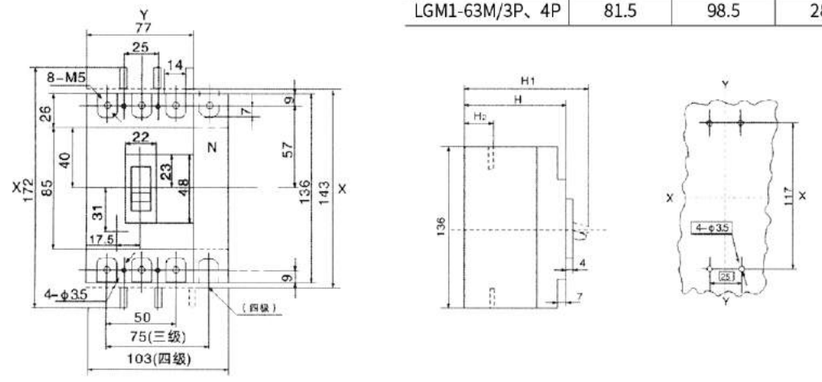
Tripping mode	Accessories code						
	Shunt release	Auxiliary contact	Under voltage release	Shunt release Auxiliary contact	Shunt release Under voltage release	Two sets of auxiliary contacts	Auxiliary contact Under voltage release
Electromagnetic trip	210	220	230	240	250	260	270
Double trip	310	320	330	340	350	360	370
Tripping mode	Category of accessories						
	Alarm contact	Shunt release Alarm contact	Auxiliary contact Alarm contact	Alarm contact of under voltage release	Auxiliary contact of alarm contact of shunt release	Two sets of auxiliary contact alarm contacts	Auxiliary contact under voltage release alarm contact
Electromagnetic trip	208	218	228	238	348	268	278
Double trip	308	318	320	338	348	368	378

Note: 1. The first digit of release mode and internal accessory code is 2 for electromagnetic (instantaneous) release, 3 for thermal electromagnetic (compound) release; the last two digits are internal accessory code, if there is no accessory, 00 is used.
2. One pair of auxiliary contacts (i.e. one normally open and one normally closed) in specifications 248, 348, 278 and 378 in specifications zwm1-400, 630 and 800, and one pair of auxiliary contacts in specifications 268 and 368.

Outline & Mounting Dimensions

LGM1-63 (L、M) front wiring (three pole, four pole) X-Y, Y-Y

model	H	H1	H2
LGM1-63L	73	90	20
LGM1-63M/3P、4P	81.5	98.5	28.5



www.liugaopower.com
http://lugaoelectric.com

LUGAO Outdoor High Voltage Disconnecting switch Series

H

RH-B Outdoor Disconnecting Switch/LBS



Normal Service Conditions

Elevation 1000-3000m;

The environment temperature is not higher than +40℃，not lower than -30℃（the high and cold region is not lower than-40℃);

The breeze presses not over 700Pa;(equal to wind velocity 34ms/s);

The earthquake intensity is not over 8 degree;

Ice thickness is not larger than 10 mm;

Installing the place should have no explode easily the dangerous goods,chemistry decays and violent vibration;

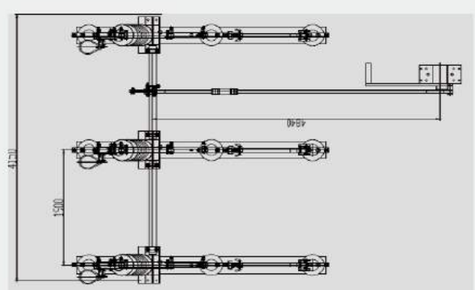
A pillar isolator the dirty grade in son: Common type is 0 class, defend dirty type as the II class.

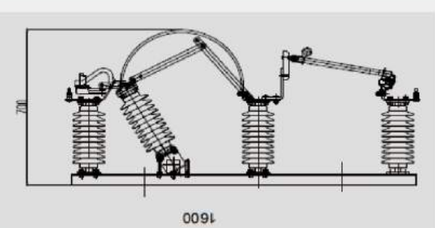
This series Isolating switch is complied with《GB1985-89 exchanges high pressure insulates the switch》IEC129(1984> {exchanges insulate the switch with connect a round of switch } with the IEC694 (1980)《high pressure switch equipmentswith control the equipments to rule with the item》various requests totally.

Main Technical Parameters(12kv)

si.No	Item	Unit	Data
01	Rated Voltage	kV	12/35
02	Rated Frequency	Hz	50
03	Rated Current	A	630
04	Rated load Breaking Current	A	630
05	Rated Off Breaking Current	A	630
06	5% Load Breaking Current	A	31.5
07	Rated Cable Charging Breaking Current	A	10
08	Rated No Load Transformer Breaking Capacity		1600
09	Rated Capacitor Bank Breaking Current	A	100
10	Power Frequency Volt withstand:Vacuum Fracture,phase to phase,phase to earth/isolating Fracture	kV	42/48, 80/95
11	Lightning Impulse Withstand Voltage:Phase to phase,phase to earth/isolating Facture	kV	
12	Rated Short time Thermal Stable Current	kA	20
13	Rated Short Circuit continous Time	S	4
14	Rated Peak Dynamic Stable Current	kA	50
15	Rated Short Circuit Breaking Current	kA	50
16	Mechanical Life	次	10000
17	Allowed comsumpted Thickness of Contacts	mm	1
18	Manual Operating Torque	N.m	⩽200

Outline & Mounting Dimensions:





GW5 Outdoor High Voltage Disconnecting switch

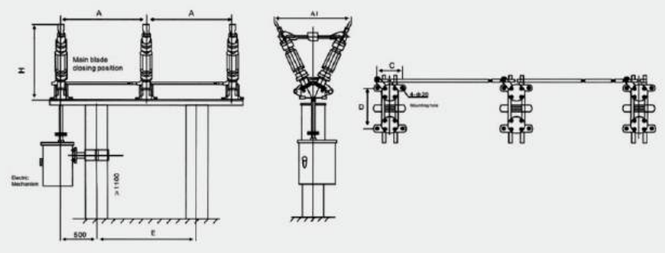


GW5 Use environmental conditions

1. Elevation 1000-3000m;
2. The environment temperature is not higher than +40°C，not lower than -30°C（the high and cold region is not lower than-40°C);
3. The breeze presses not over 700Pa;(equal to wind velocity 34ms/s);
4. The earthquake intensity is not over 8 degree;
5. Ice thickness is not larger than 10 mm;

Installing the place should have no explode easily the dangerous goods,chemistry decays and violent vibration;
A pillar isolator the dirty grade in son: Common type is 0 class, defend dirty type as the II class.
This series Isolating switch is complied with《GB1985-89 exchanges high pressure insulates the switch》IEC129(1984> {exchanges insulate the switch with connect a round of switch } with the IEC694 (1980)《high pressure switch equipments with control the equipments to rule with the item》various requests totally.

GW5 Outline & Mounting Dimensions



Rated Volt(kV)	A	A1	H	E	C	D
40.5	1200	1075	1070	1400	240	300
72.5	1600	1285	1295	2200	240	300
126	2000	1660	1695	3000	240	300

GW5 The main technical parameters

Item			Unit	Data
Rated Voltage			kV	40.5/72.5/126
Rated Insulating Level	1min power frequency withstand voltage	To Earth	kV	95/140/230
		Fracture	kV	115/160/245
	Impulse Voltage Withstand	To Earth	kV	185/325/550
		Fracture	kV	215/375/630
Rated Frequency			Hz	50
Rated Current			A	630/1250/1600/2000
Rated Short time Current withstand			kA	20/31.5/40/40
Rated Peak Current withstand			kA	50/80/100/100
Rated Short Circuit Cont. current:Main/earth Blade			s	4/2
Rated Teminal Mechanical Load	Horizontal longitudinal load		N	750/1000
	Horizontal lateral load		N	500/750
	Vertical Force		N	750/1000
Creepage Distance			mm	1013/1256,1813/2248,3150/3906
Mechanical Life			Times	2000
Manual Operating Mechanism	Model			CS17,CS17G
	Voltage Of Control Circuit		V	AC220 DC110 Dc220
Electic Operating Mechanism	Voltage of Motor		V	AC380 DC220 Ac220
	Voltage of Control Circuit		V	AC220 DC110 Dc220

GW4 Outdoor High Voltage Disconnecting switch



Normal Service Conditions

Elevation 1000-3000m;

The environment temperature is not higher than +40℃，not lower than -30℃（the high and cold region is not lower than-40℃);

The breeze presses not over 700Pa;(equal to wind velocity 34ms/s);

The earthquake intensity is not over 8 degree;

Ice thickness is not larger than 10 mm;

Installing the place should have no explode easily the dangerous goods,chemistry decays and violent vibration;A pillar isolator the dirty grade in son: Common type is 0 class, defend dirty type as the II class.

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Type Meaning

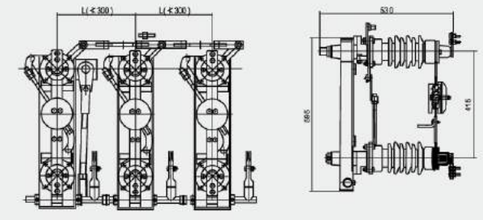
G W 4 - 12 (17.5、40.5) D / 630 - □

- Rated short-time withstand current(A)
- Rated current(A)
- Earthing Device
- Rated voltage(KV)
- Design Code
- Outdoor Device
- Disconnecting Switch

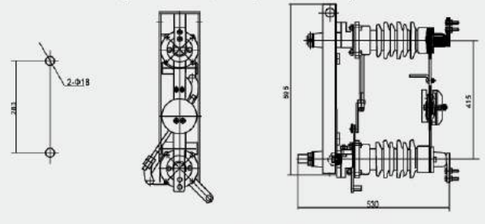
Main Technical Parameters

Type	Model	Rated voltage (kv)	Rated current (A)	Rated switch		Ground switch				Earth switch
				Rated peak withstand current(kA)	Rated short-time withstand current(kA)	Rated peak withstand current(kA)		Rated short-timewith stand current(kA)		
Normal (antipollution)	GW4	12	400-100	50	20(4S)	50	80	20(4S)	31.5 (4S)	earth-free single earth double earth
		17.5	400-630	80	31.5(4S)					
		40.5	400-1250	80	31.5(4S)					

Outline & Mounting Dimensions



Drawing 1:GW4－12D/630 3 pole connecting



Drawing 2:GW4－12D/630 sigle pole

H

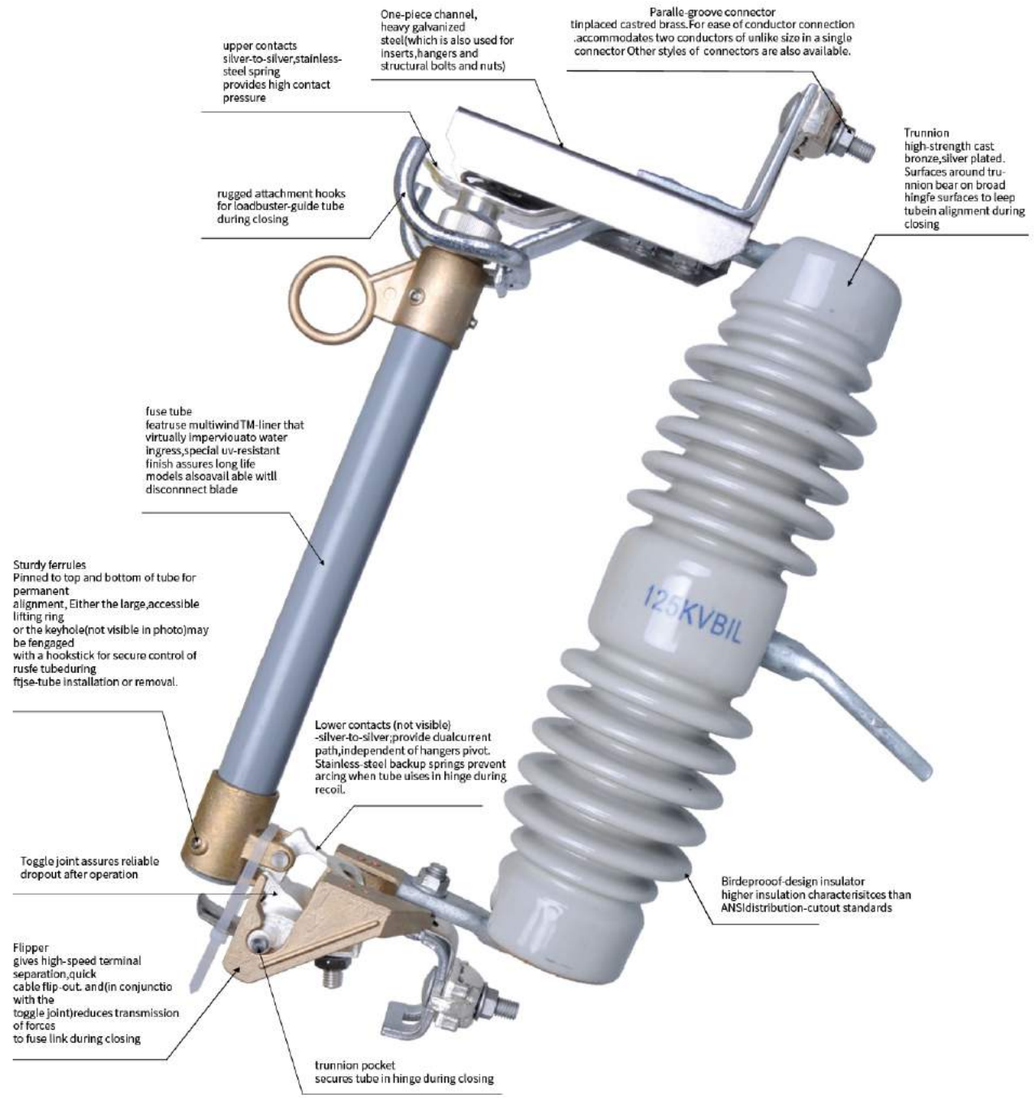
LUGAO Outdoor High Voltage Disconnecting switch Series
Outdoor High Voltage circuit breaker

High Voltage Dropout Fuse Cutout



Outline

Drop-out fuse cutout and load switching fuse cutout are outdoor high voltage protective device. To be connected with incoming feeder of distribution, transformer or distribution lines. It mainly protect transformer or lines from short circuit and overload and ON/OFF loading current. Dropout fuse cutout is composed of insulator supports and fuse tube. Static contacts is fixed on two sides of insulator support, moving contacts is installed on tow ends of fuse tube. Fuse tube is composed of inside arc extinguishing tube. Outlineer phenolic compound paper tube or epoxy glass tube. Load switching fuse cutout provides enforced elastic auxiliary contacts and arc shield for switching on-off loading current. At normally working condition, fuse link tightened the fuse tube is fixed to form up of close position. In case system occur fault, fault current will let the fuse melt immediately and electric arc will be brought, which let arc extinguishing tube being heated and resolved a lot of gas. This will produce high pressure in the tub, and blow along with the tube, and then the arc will be extended and extinguished. After fuse link melt, moving contacts has no tightened strength, locking device release the fuse, fuse tube drop out, cutout now is in open position. When it needs to switch off during cutout loading, use the insulating operating ball pull the moving contact, now main contact and auxiliary static contacts is still in contacting. Whiling pulling, the auxiliary contacts is separated, and then electric arc occurred between auxiliary contacts, arc is extended in the arc shield, at the same time the arc shield explode gas, when the current overload, let it extinguished.



Extra-Heavy-Drty overhead-polep top style,rated 25kvnominal,27kvmaxim,125kvBIL,100amperes continuous,12000amperesinterrupting RMSasymmetrical,11 inches(279mm)minimum leakage distance to groud.

Catalig Number Suffix"-D"provides for the inclusion of parallel-groove connectors each accommodating No,6solid through No,2st randed copper or aluminum in one guoove;No,2 solid through 250kc mil stranded copper or aiminum,or 4/0ACSRin the other groove.

High Voltage Dropout Fuse Cutout



10KV-15KV

Type	PD-12/100	PD-12/200
Rated Voltage(kV)	10-15	10-15
Rated current(A)	100	200
Breaking current(A)	10,000	12,000
Impulse voltage(kV)	110	110
Power frequency wihstand voltage(kV)	42	42
Creepage distance(mm)	250	250
Weight(kg)	7.0	7.0
Dimensions(CM)	38.5X34.5X10.5	38.5X34.5X10.5



15KV-27KV

Type	PD-15	PD-15
Rated Voltage(kV)	15-27	15-27
Rated current(A)	100	200
Breaking current(A)	10,000	12,000
Impulse voltage(kV)	125	125
Power frequency wihstand voltage(kV)	45	45
Creepage distance(mm)	355	355
Weight(kg)	8.8	8.8
Dimensions(CM)	51.5X34X12	51.5X34X12



Type	PD-24	PD-24
Rated Voltage(kV)	24-27	24-27
Rated current(A)	100	200
Breaking current(A)	8,000	10,000
Impulse voltage(kV)	150	150
Power frequency wihstand voltage(kV)	65	65
Creepage distance(mm)	505	505
Weight(kg)	12	12



24KV-27KV

Type	PD-11	PD-11
Rated Voltage(kV)	24	24
Rated current(A)	100	200
Breaking current(A)	10,000	12,000
Impulse voltage(kV)	150	150
Power frequency wihstand voltage(kV)	65	65
Creepage distance(mm)	540	540
Weight(kg)	4.5	4.5
Dimensions(CM)	51X34X11.5	51X34X11.5



12KV-15KV

Type	PD-12	PD-12
Rated Voltage(kV)	15	15
Rated current(A)	100	200
Breaking current(A)	10,000	12,000
Impulse voltage(kV)	110	110
Power frequency wihstand voltage(kV)	45	45
Creepage distance(mm)	245	245
Weight(kg)	3.8	3.8
Dimensions(CM)	45X34X11.5	45X34X11.5

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33KV-36KV

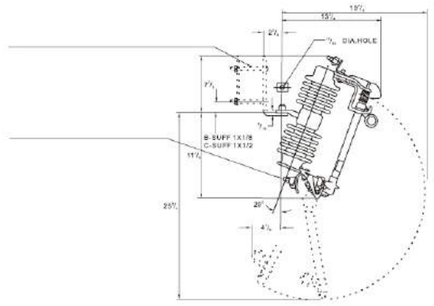
Type	PD-13	PD-13
Rated Voltage(kV)	33	33
Rated current(A)	100	200
Breaking current(A)	6,000	8,000
Impulse voltage(kV)	170	170
Power frequency wihstand voltage(kV)	70	70
Creepage distance(mm)	660	660
Weight(kg)	15	15
Dimensions(CM)	56X38X11.5	56X38X14.



33KV-36KV

Type	PD-36/100	PD-36/200
Rated Voltage(kV)	36	36
Rated current(A)	100	200
Breaking current(A)	10,000	12,000
Impulse voltage(kV)	170	170
Power frequency wihstand voltage(kV)	70	70
Creepage distance(mm)	720	720
Weight(kg)	5	5
Dimensions(CM)	61X34X11.5	61X34X11.5

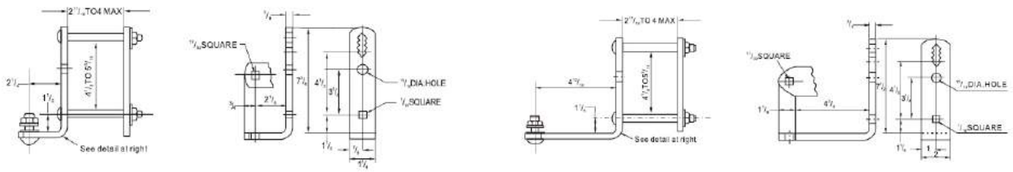
Table 1



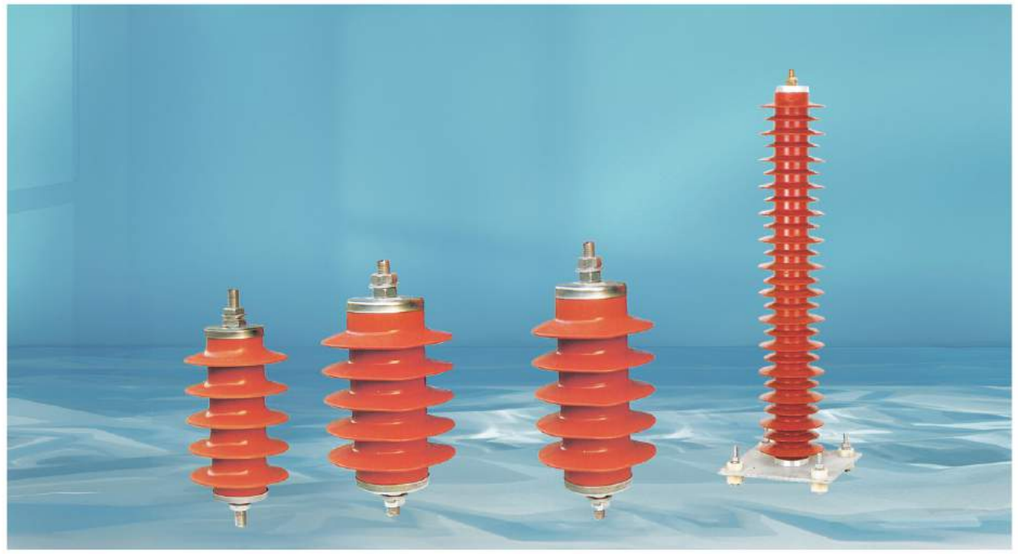
Connector suffix		
Type connector	wire size	Catalog no sultix
Parallel groove	Mumber solid cu thru 250KC will standed cu or4/0 acsr	-D
Eye volt	NO.6 solid cu thru2/0 standed cu.or al	-J
Eye volt	No.6 solid cu thru 250KC will standed cu or4/0 acsr	-M

Table 2

Style	Rating				Leakage distance to gro.Minum inches
	Catalog	KV.Nom	BIL	Amps	
Exlra heavy duty	RTF	25	150	100	-D
ullra beavy duty	RTF	25	150	100	-J
Heavy duty	RTF	14.4	150	100	-M



HY5W,HY11W Lighting Arrester



Lightning arrester Basic Principle

Lightning arrester is an overvoltage protector, mainly for the protection of electric power system, therailway electrification systems, communication systems in a variety of electrical equipment (transformer,switch, capacitor, trapper, transformers, generators, motors, power cables) from atmospheric over voltage,overvoltage and transient over-voltage such damage, is the foundation of power system insulation coordination.

Metal oxide surge arrester of the core components (resistors) with zinc oxide based advanced formulations,has very excellent nonlinear (V-A) characteristics, namely in the normal working voltage, current through the only microampere stage, when subjected to a voltage, current through the moment reached thousands of amperes, make in a lightning arrester on-state voltage, the release of energy, thus effectively limiting over-voltage on the power transmission and transformation equipment damage.

Traditional silicon carbide surge arrester is because of steep wave discharge delay caused by the steep wave discharge voltage is high, operation wave discharge dispersity in operation wave discharge voltage high. Zinc oxide surge arrester with good wave response of wave voltage, without delay, the operation residual depression,no discharge dispersity etc.. The steep wave, wave protection margin is improved greatly, but also in the insulation coordination, can be steep wave, lightning, operation wave protective margin nearly uniformly, so as to provide the best protection for electric power equipment.

Composite coated metal oxide lightning arrester, adopts integral injection molding, two sealing technology, good sealing performance, explosion proof performance, and can reduce the contamination resistance free cleaning fog wet hair, electrical erosion resistance, aging resistance, small volume, light weight,convenient installation and maintenance. Porcelain is the set of lightning arrester for the upgrading of products.

Lightning arrester Technical Standard

Product standards for the GB11032-2000(EQV IEC60099-4:1991) “metal oxide surge arresterswithout gaps,” JB / 8952-2005 “communication system using composite coat of metal oxide surgearresters without gaps”

Lightning arrester Main Technical Parameters

5kV Lightning arrester parameter

Type	Rated voltage (kV)	MCOV (kV)	Residual voltage (KV)			2000ms Squarewave impulse current withstand	4/10MS High current impulse (kV)
			Steep current impulse	Switching current impulse	8/20 ms Lightning current impulse		
HY5W-3	3	2.55	9.5	7.7	9	100	65
HY5W-6	6	5.1	19.5	15.4	18	100	65
HY5W-9	9	7.65	28.5	23.1	27	100/200	65
HY5W-10	10	8.4	36	30	23	150/200	65
HY5W-11	11	9.4	40	33	30	150/200	65
HY5W-12	12	10.2	38.0	30.8	36	100/200	65
HY5W-15	15	12.7	47.5	38.5	45	100/200	65
HY5W-18	18	15.3	57.0	46.2	54	100/200	65
HY5W-21	21	17.0	66.5	53.9	63	100/200	65
HY5W-24	24	19.2	76.0	61.6	72	100/200	65
HY5W-27	27	21.9	85.5	69.3	81	100/200	65
HY5W-30	30	24.2	95.0	76.5	90	100/200	65
HY5W-33	33	26.8	104.5	84.7	99	100/400	65
HY5W-36	36	29	114.0	92.4	108	100/400	65
HY5W-42	42	34.1	132.3	100. 1	126	100/400	65

11kV Lightning arrester parameter

Type	Rated voltage (kV)	MCOV (kV)	Residual voltage (KV)			2000ms Squarewave impulse current withstand	4/10MS High current impulse (kV)
			Steep current impulse	Switching current impulse	8/20 ms Lightning current impulse		
HY11W-3	3	2.55	9.5	7.7	9	100	100
HY11W-6	6	5.1	19.5	15.4	18	100	100
HY11W-9	9	7.65	28.5	23.1	27	100	100
HY11W-10	10	8.4	36	30	23	250	150
HY11W-11	11	9.4	40	33	30	250	150
HY11W-12	12	10.2	38.0	30.8	36	200	100
HY11W-15	15	12.7	47.5	38.5	45	200	100
HY11W-18	18	15.3	57.0	46.2	54	200	100
HY11W-21	21	17.0	66.5	53.9	63	200	100
HY11W-24	24	19.2	76.0	61.6	72	200	100
HY11W-27	27	21.9	85.5	69.3	81	200	100
HY11W-30	30	24.2	95.0	76.5	90	200	100
HY11W-33	33	26.8	104.5	84.7	99	400	100
HY11W-36	36	29	114.0	92.4	108	400	100
HY11W-42	42	34.1	132.3	100. 1	126	400	100
HY11W-48	48	39	152.0	126.0	150	400	100
HY11W-54	54	43	171.0	139.0	162	600	100
HY11W-60	60	48	208.0	160.0	180	600	100
HY11W-66	66	52.8	230.0	172.0	198	600	100

Ht Hrc Fuses



Outline

This product can be used in indoor system of 50Hz and rated voltage 12kV. It can break any fault current betweenthe fuse melting current and the rated break, it has also the non-current limit fuse of small currentprotection, an overall break protection can be achieved.

Type Meaning

X R N T □ - 12 — CHINESE Model

- Kvrated voltage;KV(kilo—volt)
- Design serial number
- Transformer protection
- Indooruse
- Fuse
- Limit current

S □ L □ J — Foreign Model

- German DIN Standard Inserting Type
- N= 无 (Nine)A= 有 (Available)
- Fuse length:L=292mm(12KV)442mm,(24KV)537mfn(40.5KV)(38KV)
- Fuse diameters： D=ϕ51mm F.K=ϕ63mm ϕ76mm,ϕ88mm
- Transformer protection

Main Technical Parameters

Type	Counterpart	Rated voltage	Rated current of the fuse(A)	Rated current of the fuselink(A)
XRNT-12	SDLAJ	12	40	3.15、6.3、10、16、20、25、31.5、40
XRNT-12	SFLAJ	12	100	50、63、71、80、100、(125)
XRNT-12	SKLAJ	12	125	125、160、200、250
XRNT-24		24	200	3.15、6.3、10、16、20、25、31.5、40 50、63、80、100、125、160、200
XRNT-40.5		40.5	125	3.15、6.3、10、16、20、25、31.5、40 50、63、80、100、125

primary voltage of the transformer 12KV	
KVA Transformer capacity KVA	Fuse rated current (A)
<125	10
160	16
200-250	20
315	25
400	31.5
500	40
630	50
800	63

Outline & Mounting Dimensions



Figure 1 / a fuse char1/a link XRNT□-12kV

注：ΦA：Φ51mm(6.3-40A) Φ63 Φ76mm(50-125A) Φ88(160-200A)

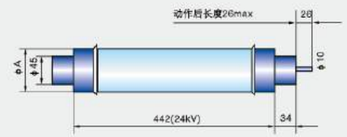


Figure 2 / a fuse XRNT□-24kV

注：ΦA：Φ51mm(6.3-31.5A) Φ63 Φ76mm(40-125A) Φ88(125-200A)

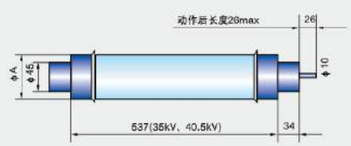


Figure 3 / a fuse XRNT□-40.5kV

注：ΦA：Φ51mm(6.3-25A) Φ76mm(25-40A) Φ88(50-100A)

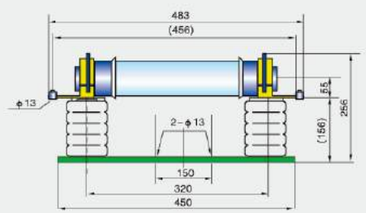


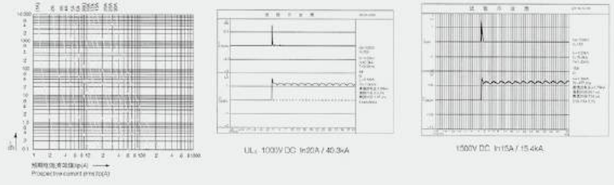
Figure 1 / b fuse (12kV)

Solar (PV)power protection:fuses

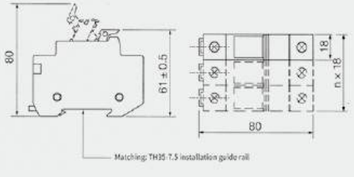


Specification:

Serial number	Model / Size	Rated Voltage	Rated breaking capacity	Overall dimensions (mm)														
				2	3	3.15	3.5	4	5	6	8	10	12	15	16	20	25	30
001	YRPV-30	DC：1000	㊀ 40/ △ 20 CE	Power consumption														
002	YRPV-30S	DC：1500	㊀ 20/ △ 15 CE	0.85	0.99	1.0	1.15	1.2	1.3	1.48	1.76	2.2	2.3	2.6	2.7	3.2	3.8	4.25



Serial number	Model / Size	Rated Voltage	Rated Current	Fuse block available：model/size
003	YRPV-30; YRPV-30X;	DC：1500	30	YRPV-30、YRPV-30S/φ10×38A

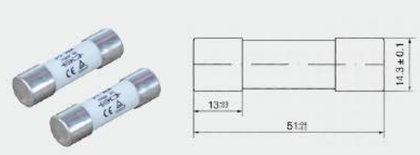


Solar (PV)power protection:fuses

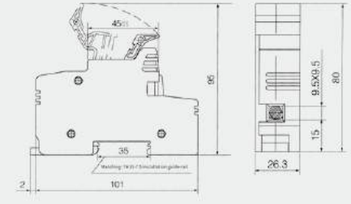


Specification:

Serial number	Model / Size	Rated Voltage	Rated breaking capacity	Rated current						
				10	12	15	20	25	32	40
013	YRPV-40/φ14×51	DC：1500	△ 25 CE	Power consumption						
				1.65	1.95	2.36	2.93	3.9	4.98	6.3



Serial number	Model / Size	Rated Voltage	Rated Current	Fuse block available：model/size
014	YRPV-40	DC：1500	40	YRPV-40/φ14×51

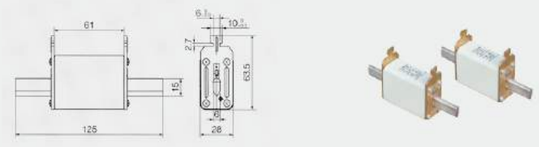


Solar (PV)power protection:fuses

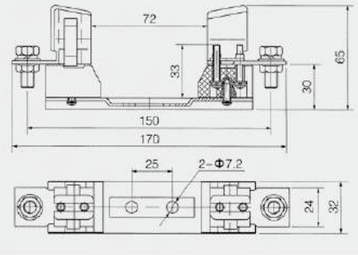


Specification:

Serial number	Model / Size	Rated Voltage	Rated breaking capacity	Rated current
017	YRPV-160	DC：1000	△ 20 CE	40、50、63、80、100、125、160



Serial number	Model / Size	Rated Voltage	Rated current	Fuse block available : model/size
018	YRPV-160/160	DC：1000	160	YRPV-160

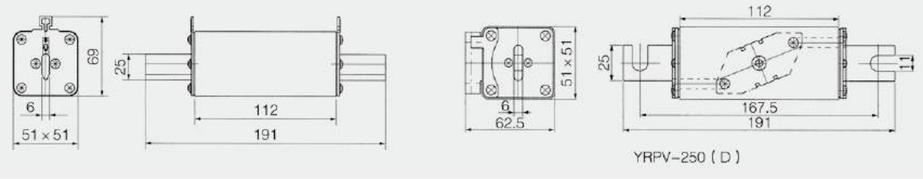


Solar (PV)power protection:fuses

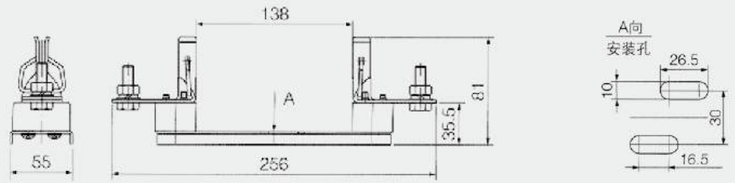


Specification:

Serial number	Model / Size	Rated Voltage	Rated breaking capacity	Rated current
019	YRPV-250D	DC：1000/1500	△ 25 CE	125、160、200、250



Serial number	Model / Size	Rated Voltage	Rated current	Fuse block available : model/size
020	YRPV-250D/201	DC：1000/1500	250	YRPV-250D、YRPV-250（D）



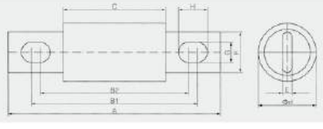
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Fuse



New energy auto fuse （UL/TUV certification in progress）

Serial number	Model / Size	Rated Voltage DC/(V)	Rated Current (A)	Overall dimensions (mm)								Certification Status
				A	B1	B2	C	φd	E	F	G×H	
001	YREVu-60a	500	35、40、50、60	92.6	77.2	69.6	54.1	21	3	17	8.2×12	Certified-TUV
002	YREVu-100a		70、80、90、100	93.5	78.3	70.8	55.6	25.8	3	19	8.2×12	
003	YREVu-200a		110、125、150、200	93.8	77.4	72.2	55.7	31.4	5	21	8.2×10.8	
004	YREVu-400a		225、250、300、350、400	111.9	88.1	78.7	54.8	38.5	6	25.4	10.3×15	
005	YREVu-150a		60、80、100、125、150	87	68.3	60.7	42	26	3.2	19	8.2×12	
006	YREVu-250a		100、125、150、200、250	110	86.2	76.8	53	30	5	21	10.3×15	
007	YREVu-350a		200、250、300、350	110	86.2	76.8	53	32	5	21	10.3×15	
008	YREVu-600a		450、500、600	115	92	81	58	51	10	39.8	12.5×18	Pending tuv certification
009	YREVu-800a		630、700、800	166	117.5	106.5	58	63.5	10	51	12.5×18	
010	YREVu-1200a		850、900、1000、1100、1200	178.6	138.5	111.5	68	77	10	62	16.5×30	



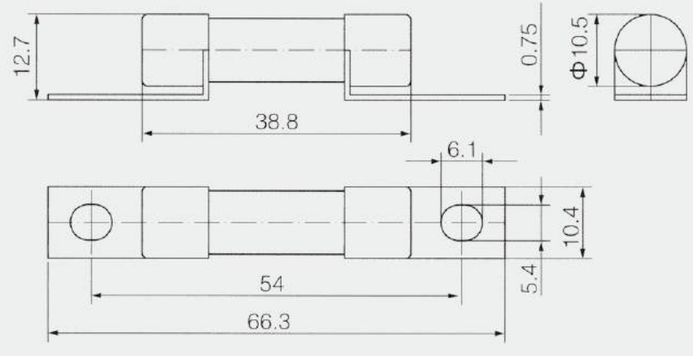
New energy vehicle protection (line, electromagnetic, charging pile) - fuse

Fuse



New energy auto fuse （UL/TUV certification in progress）

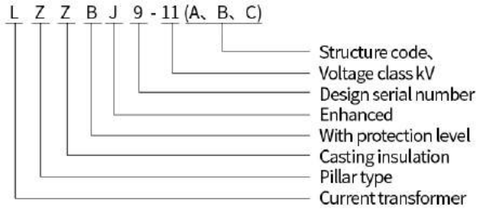
Serial number	Model / Size	Rated Voltage DC/(V)	Rated Current (A)	Overall dimensions (mm)								Certification Status
				A	B	C	φd	E	F	K	G×H	
001	YREVq-38b1	700/750	10、15、20、25、30、35、40、50	66.3	54	38.8	10.5	0.78	10.4	12.7	5.4×6.1	Pending tuv certification
002	YREVq-51b1		35、40、50、60	85	67.9	51	14.2	1.0	14.3	16.4	6.2×8.6	
003	YREVq-58b1		63、80、100	112	85	58	22.2	1.2	22.2	25.4	8.5×12	



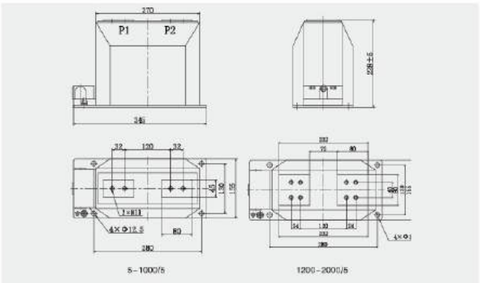
Cast isolation current transfomer



Model meaning



Dimensions



Technical parameter

Rated primary Current (A)	Short time thermal current(kA/S)	Dynamic stability Current (KA)	Accuracy level combination	Rated secondary output (VA)				Surface creepage Distance	weight (kg)
				0.2(S),0.5S	5P10,10P10	5P15,10P15	5P20,10P20		
5-150	100 $I1n\times10^{-3}$	250 $I1n\times10^{-3}$	0.2S/5(10)P 0.5(S)/5(10)P 0.2(S)/0.2(S) 0.2(S)/0.5(S) 0.2(S)/0.5(S)/5(10)P	10	15	15	15	245	19
200-300	31.5	80							
400	45	112.5							
500-600	63	130							
800	80	160		15	20	20			
1000-1250									
1500-3150	100								

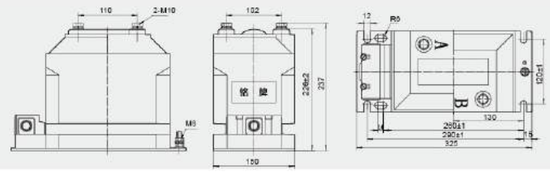
Cast isolation current transfomer



Technical parameter

Product model	Rated voltage ratio(kV)	Accuracy level and accuracy class combination rated secondary output	Limit output(VA)	Rated insulation level(kV)	Surface creepage Distance (mm)	weight(kg)	remarks
JDZ10-3A	3000/100	0.2-15 0.5-30 1-60 3-150	300	3.6/23/40	210	23	Same as "RZL"
JDZ10-6A	6000/100			7.2/32/60			
JDZ10-10A	10000/110			12/4275			
	10000/220						
	10000/100/100	0.2/0.2-10/10 0.2/0.5-10/10 0.5/0.5-20/20	150/150				
	1000/100/220	0.2/3-15/150 0.5/3-30/150	200/300				
JDZX10-3AG	3000 / 100 / 100 3 3 3	0.2/6P(3P)-15/50 0.5/6P(3P)-30/50 1/6P(3P)-60/50 3/6P(3P)-150/50	200	3.6/23/40			
JDZX10-6AG	6000 / 100 / 100 3 3 3			7.2//32/60			
JDZX10-10AG	1000 / 100 / 100 / 100 3 3 3 3			12//42/75			

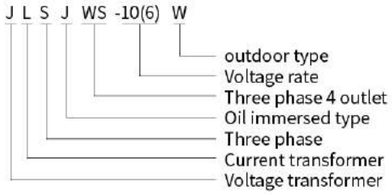
Dimensions



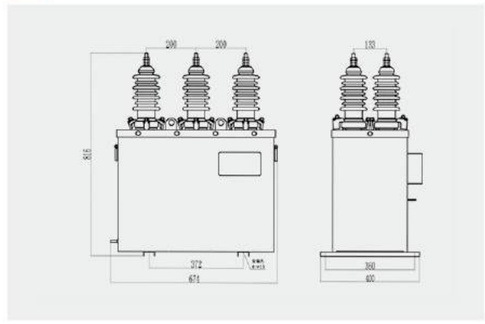
Measuring tank series



Model meaning



Dimensions



Dimensions

This type of transformer is an oil immersed outdoor structure composed of current transformer and voltage transformer. It is mainly suitable for electric energy measurement and current and voltage measurement in the power system with rated frequency of 50 Hz or 60 Hz and rated voltage of 10 kV and below. The wiring mode of this product is Y / Y type.

This product meets the standards of GB 20840.1-2010 "transformers Part 1: General technical requirements", GB 20840.2-2014 "transformers Part 2: supplementary technical requirements for Current Transformers", GB 20840.3-2013 "transformers Part 3: supplementary technical requirements for Voltage Transformers" and GB 20840.4-2015 "transformers Part 4: supplementary technical requirements for combined transformers".

Oil immersed voltage transformer series



Summarize

JLS-10, 35 series for three-phase three-wire (or two-element) outdoor, oil-immersed high-voltage combination transformer (with a meter called power metering box), JLSY-10, 35 series for three-phase four-wire (or three components) outdoor, oil-immersed high-voltage combination transformer, Suitable for 50Hz or 60Hz three-phase AC, applicable to rated voltage of 10kV, 35kV power grid as power metering, and installed on the high voltage side of electric transformer. The instrument box contains a three-phase three-wire multi-purpose electronic meter, a three-phase four-wire active power meter and a reactive power meter, and a three-phase four-wire multi-function electronic meter or a three-phase four-wire active power meter and a reactive power meter in the three-phase four-wire measuring instrument box. Is used to directly measure the high-voltage line, active and reactive power metering equipment. It plays an important role in preventing electricity theft, saving energy and strengthening power supply management

Dimensions

