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Please contact our factory to confirm the specific dimensional data of the engineering project. Due to printing reasons, there may be some differences in color between the official product and the image shown. All products are subject to the actual product.

LUGAO POWER CO., LTD.

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Product Selection

Honesty, innovation, forge ahead, steady development.

www.liugaopower.com

LUGAO POWER CO., LTD.

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



Specialist only master his own field

The same we are

Do real security heart of heart
Innovation with unlimited future
From science and technology elements into the sea of the world

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

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 POWER CO., LTD.



LUGAO

Company profile

www.liugaopower.com >>>

Lugao Power Co.,Ltd is a company engages in both manufacturing and trading, which provides one-stop procurement services for power equipments and power system products. Established in 2017, the company is headquartered in Yueqing, China and has become a leading supplier of a wide range of electric power products and solutions.

Lugao Power Co.,Ltd. specializes in research, development, production and sales of high-voltage transmission and distribution equipment. Lugao has introduced advanced manufacturing technologies and rigorous testing methods to ensure the highest standards. As an industry leader, we are committed to the principles of "high technology, high quality and high service". Our products have evolved into a diverse range of offerings, covering various high and medium voltage transmission and distribution systems. There are Power Transformer, Box-type Compact Transformer Substation, Switchgear, Gas Insulated switchgear, SF6 Circuit Breaker, Vacuum Circuit Breaker, Disconnector, Surge Arrester, etc.

Some key facts about Lugao Powr Co.,Ltd.:

-Integrated business model covering manufacturing, trading and integrated services Specializes in power transmission and distribution equipment, automation systems, and renewable energy products;

-Offers comprehensive solutions including design, procurement, installation and maintenance. Serves a diverse customer base across various industries such as power, infrastructure, manufacturing and construction;

-Leverages strong relationships with major domestic and international brands;

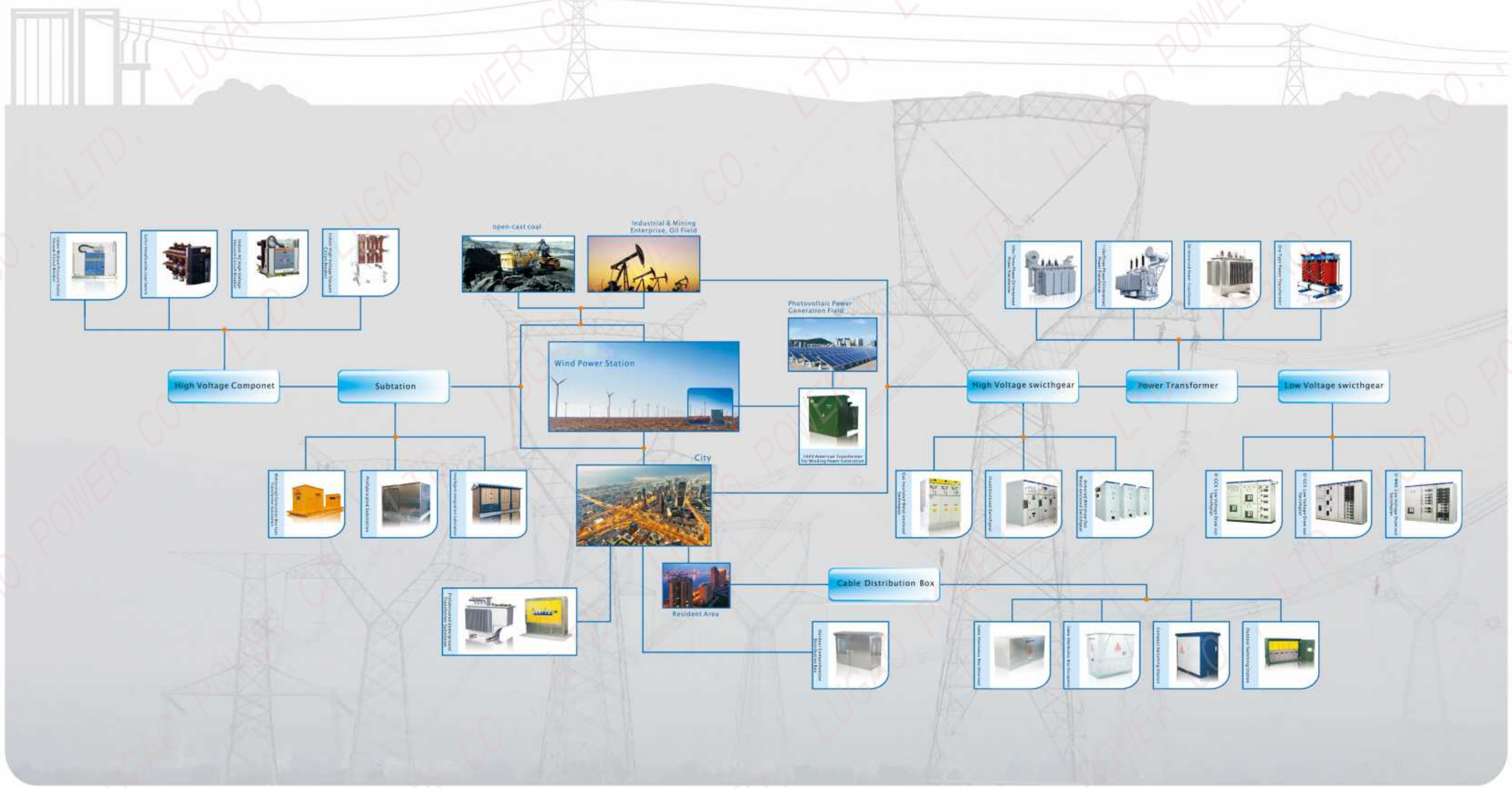
-Commits to delivering high-quality products and reliable services to its customers;

With its industry expertise, extensive product portfolio, and customer-centric approach, Lugao Power Co.,Ltd. has established itself as a trusted partner for businesses seeking comprehensive power-related solutions in the Chinese and global markets.

LUGAO

MAJOR ABSORBED INNOVATE

Business Scope: High Voltage& Low Voltage Electric Power System One-Stop Solution





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.









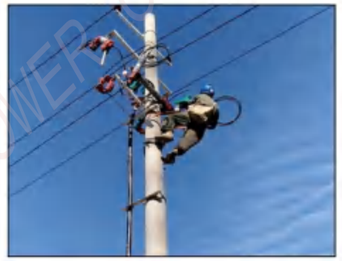




CORPORATE PERFORMANCE

POWER TRANSMISSION AND TRANSFORMATION










PHOTOVOLTAIC POWER GENERATION








CORPORATE PERFORMANCE

WIND POWER GENERATION



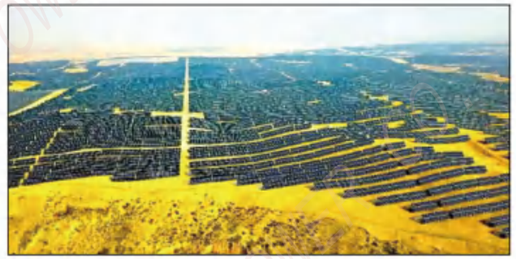








WIND POWER GENERATION



Enterprise history

2009

Shanghai Liugao Electric Power Technology Co.,Ltd. was Established.

2014

Adding a new department: Ring Main Unit department

2016

Changing Liugao Electric Power Technology Co.,Ltd. into Liugao Electric Power Technology Group Co..Ltd.

2018

Establishing Ningxia Liugao Electric Power Technology Co.,Ltd.

2019

Adding a new department: Power transformer department

2020

Establishing a branch office in Henan.

2022

Establishing Liugao Electric Power Technology Group Zhejiang Transmission and Distribution Co.,Ltd.

2024

Changing to Lugao Power Co.,Ltd

LUGAO POWER CO., LTD.

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KYN28-24(15) Armored removable AC metal enclosed switchgear 007-013
KYN28A-12(10-11kV) Armored removable AC metal-enclosed switchgear 014-018
XGN66-12 High voltage switchgear series 019-021
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SRM-12 Fully sealed fully insulated inflatable ring network switchgear 025-028
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C-GIS 40.5kV SF6 gas insulated switchgear 032-033
SRM-40.5 Totally enclosed and fully insulated inflatable ring network switching equipment 034-041
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GCS Low Voltage Switchgear Series 065-067
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GZDW DC power screen 071-073
GZDW DC screen (vertical one side screen) 074-075
GZDW AC integrated power supply screen 076-078
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KYN61-40.5(Z)

Armored removable AC metal enclosed switchgear



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

Overview

KYN61-40.5(33)type alternating-current metal-clad and metal-enclosed with draw-able 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.

Main feature

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 mis operation;
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.

Use environmental conditions

1. Ambient temperature: -10℃ ~+40℃，mean value measured within 24h should not exceed 35C.
2. Altitude: not exceed 3000m;
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.

Vacuum switchgear main technical parameters

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

Name	Unit	Data
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

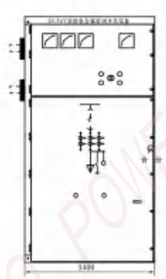
Spring operating mechanism main technical parameters

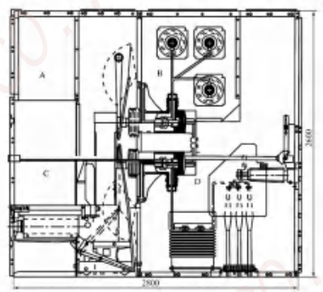
Name		Unit	Data
Rated operating voltage	Opening coil Closing coil	V	DC220/110, AC220/110
Rated operating current	Opening coil Closing coil	A	0.96(220V), 1.05(110V)
Power of energy-storage motor		W	230
Rated voltage of energy-storage motor		V	DC220/110, AC220/110
Energy-storage time		S	⩽ 12

Switchgear structure features

Outline dimension of switchgear
Outline dimension (WxDxH)
1400x2800x2600(reference)

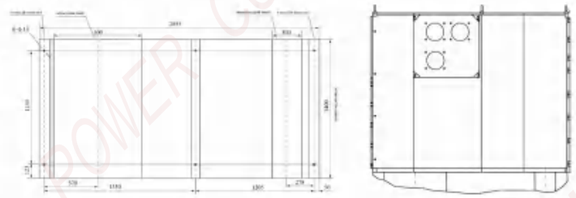
Structural schematic diagram of switchgear
A relay meter chamber B bus chamber C circuit breaker chamber D cable chamber





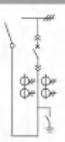
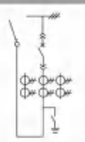
Switch cabinet installation

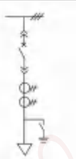
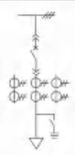
Schematic diagram of installation foundation of switchgear
a.The height of the electrical room: ⩾ 4500mm;
b.Distance from the back of the cabinet to thewall: ⩾ 1500mm;
c.The flatness of the infrastructure: ⩽ 1mm/m2;
d.The part of the foundation pre-buried channel steel above the ground shall not exceed 3mm.;
e.It can be fixed on the foundation by bolt or welding.;
f.The weight of switchgear is about 1800kg;
g.Switchgear operation corridor width (single column): ⩾ 3000mm;Double-sided (face to face) ⩾ 4000mm

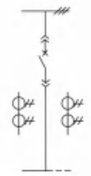


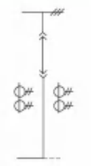
Example scenario

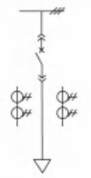
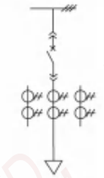
Primary wiring schemes of switchgear include 27 typical schemes, meeting users demands on cable incoming and outgoing lines, overhead incoming and outgoing lines tie, measurement and protection, if require other schemes, please contact the manufacturer.

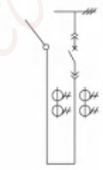
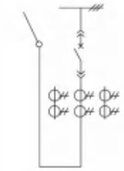
Scheme number		1	2	3	4
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Circuit breaker ZN85-40.5	1	1	1	1
	Current transformer LDBJ8(9)-35		1	2	3
	Earthing switch JN22-40.5/31.5	1	1	1	1
Application		Overhead outgoing line	Overhead outgoing line	Overhead outgoing line	Overhead outgoing line

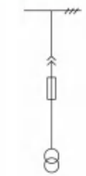
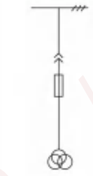
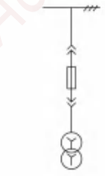
Scheme number		5	6	7	8
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Circuit breaker ZN85-40.5	1	1	1	1
	Current transformer LDBJ8(9)-35		1	2	3
	Earthing switch JN22-40.5/31.5	1	1	1	1
Application		Cable outgoing line	Cable outgoing line	Cable outgoing line	Cable outgoing line

Scheme number		9	10	11	12
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Circuit breaker ZN85-40.5	1	1	1	1
	Current transformer LDBJ8(9)-35		1	2	3
Application		Left (right) tie	Left (right) tie	Left (right) tie	Left (right) tie

Scheme number		13	14	15	16
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Circuit breaker ZN85-40.5	1	1	1	1
	Current transformer LDBJ8(9)-35		1	2	3
Application		Isolation, tie	Isolation, tie	Isolation, tie	Isolation, tie

Scheme number		17	18	19	20
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Circuit breaker ZN85-40.5	1	1	1	1
	Current transformer LDBJ8(9)-35		1	2	3
Application		Cable outgoing line	Cable outgoing line	Cable outgoing line	Cable outgoing line

Scheme number		21	22	23	24
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Circuit breaker ZN85-40.5	1	1	1	1
	Current transformer LDBJ8(9)-35		1	2	3
Application		Overhead outgoing line	Overhead outgoing line	Overhead outgoing line	Overhead outgoing line

Scheme number		25	26	27	28
Primary circuit diagram					
Main elements	Rated current	1250,1600,2000			
	Current transformer JDZX9-35	2	3	3	
	Fuse XRNP-35	3	3	3	
	Lightning arrester YH5WS-51/134Q				
Application		Voltage transformer	Voltage transformer	All transformer	

KYN28-24(15)

Armored removable AC metal enclosed switchgear



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

Overview

KYN28-24(15) series alternating-current metal-clad and metal-enclosed with draw-able switchgear(hereinafter referred to as "switchgear") is a complete set of power distribution unit of three- phase single bus and single bus section system of 15kV and AC 50(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(15) 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.

Model and meaning

K Y N □ - 24 (15) / □ - □ □ □

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

Use environmental conditions

1. Ambient air temperature: -15° C ~+40° C ;
2. Altitude: ⩽ 3000m;
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 severe vibration.
6. If the product is intended for locations beyond the normal service conditions stipulated by GB3906, please negotiate with our company.

The main technical parameters

Name	Unit	Data
		Matched circuit breaker NV1-24(15)
Rated voltage	kV	24(15)
1 min 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)

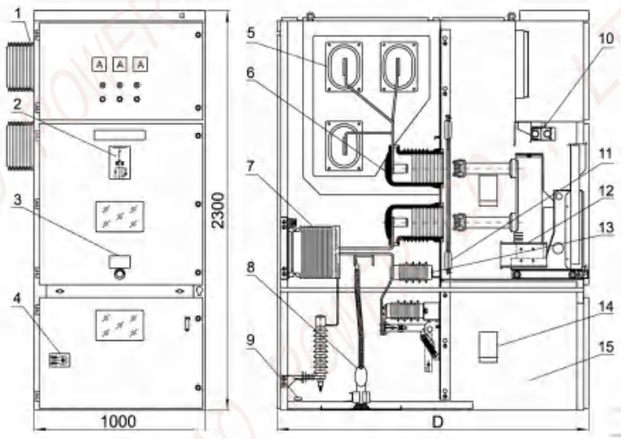
Product structure performance characteristics

1. Switchgear of 24kV(15)with compact volume

Structure of this product is similar to that of mid-set switchgear of 12kV, the product is applicable to systems of 24kV/15kV, need not composite insulation or interphase separator,with outstanding insulation 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 enclosure 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.

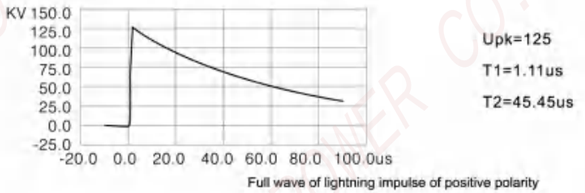


Structure drawing of switchgear

1.Wall bushing
2.Analog primary diagram
3.Nameplate
4.Illuminating lamp
5.Main bus
6.Contact box
7.Current transformer
8.Primary cable
9. Earthing busbar
10.Secondary interlocking assembly
11.Valve mechanism
12.Handcart of circuit breaker
13.Insulator
14.Heater
15.Framework of cabinet body

Cabinet depth	D(mm)
Cable outgoing line	1820
Overhead incoming and outgoing lines	2150

3.Lightning impulse resistant capacity



Full wave of lightning impulse of positive polarity

4.Various handcarts, convenient operation

Framework of the handcart is made up of steel sheets through machining of CNC machine tool. The handcart has good insulation coordination with the cabinet body, with safe, reliable and flexibly mechanical interlocking. It can be divided into circuit breaker handcart, voltage transformer handcart and isolating handcart according to the purposes, handcarts of the same specification are exchangeable absolutely.

There are breaking position, test position and working position in the cabinet body for handcart, each position has positioning device respectively that guarantees reliable interlocking, must carry out operation according to the interlocking anti-misoperation process. All handcarts adopt lead screw to rotate to push in or withdraw, it is convenient and flexible to operate, suitable for all kinds of operators on duty. When it is required to remove the handcart from the cabinet body, please use a special transfer car to take it out conveniently, then to carry out inspections and maintenance; it adopts mid-set type, has small volume, is convenient to check and maintain.



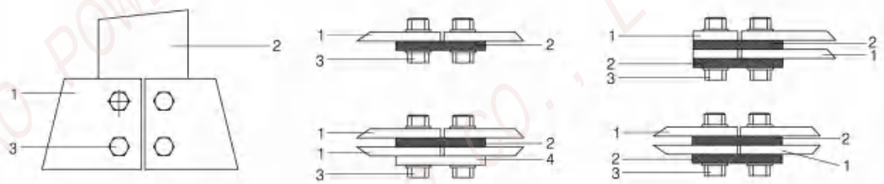
NVI-24(15)circuit breaker



Isolating handcart



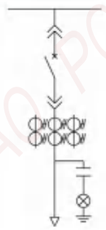
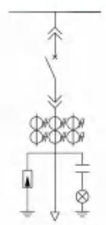
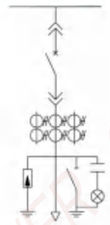
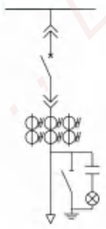
Voltage transformer handcart

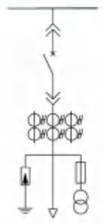
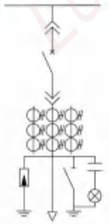
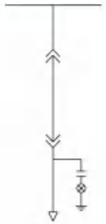


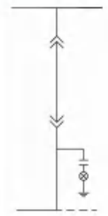
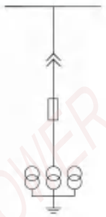
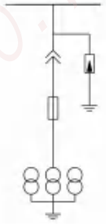
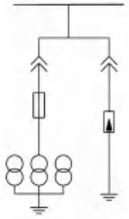
Connection mode between bus and branch bus

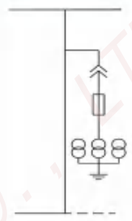
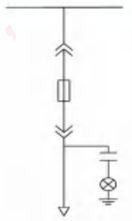
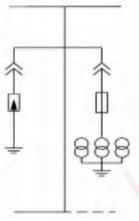
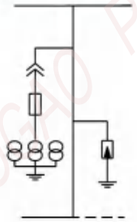
1. Main bus 2. Small branch bus 3. Bolt 4. Cushion block

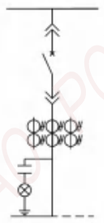
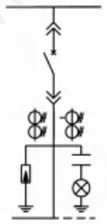
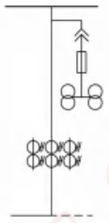
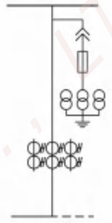
The main circuit scheme diagram

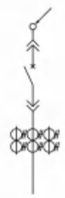
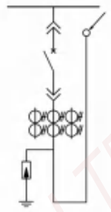
Scheme number		1	2	3	4
Scheme of primary wiring					
Electrical element of main circuit	Dim. of cabinet body (WxDxH) mm	1000×1820×2300	1000×1820×2300	1000×1820×2300	1000×1820×2300
	(A) Rated current	630~3150A			
	Vacuum circuit breaker NV1-24(15)	1	1	1	1
	Current transformer LZZB9-24(15)	2~3	2~3	2~3	2~3
	Voltage transformer				
	High-voltage fuse				
	Earthing switch			1	1
	Lightning arrester			3	
Application		Power receiving, feeding	Power receiving, feeding	Power receiving, feeding	Power receiving, feeding
Remark					

Scheme number		5	6	7	8
Scheme of primary wiring					
Electrical element of main circuit	Dim. of cabinet body (WxDxH) mm	1000×1820×2300	1000×1820×2300	1000×1820×2300	1000×1820×2300
	(A) Rated current	630~3150A			
	Vacuum circuit breaker NV1-24(15)	1	1	1	
	Current transformer LZZB9-24(15)	3	3	3	
	Voltage transformer	1			
	High-voltage fuse	2			
	Earthing switch			1	
	Lightning arrester	3	3	3	
Application		Power receiving, feeding	Power receiving, feeding	Power receiving, feeding	Isolation
Remark					

Scheme number		9	10	11	12
Scheme of primary wiring					
Electrical element of main circuit	Dim. of cabinet body (WxDxH) mm	1000×1820×2300	1000×1820×2300	1000×1820×2300	1000×1820×2300
	(A) Rated current	630~3150A			
	Vacuum circuit breaker NV1-24(15)				
	Current transformer LZZB9-24(15)				
	Voltage transformer		2~3	3	2~3
	High-voltage fuse		3	3	3
	Earthing switch				
	Lightning arrester				3
Application		Bus tie isolation	Voltage measurement	Voltage measurement	Voltage measurement
Remark					

Scheme number		13	14	15	16
Scheme of primary wiring					
Electrical element of main circuit	Dim. of cabinet body (WxDxH) mm	1000×1820×2300	1000×1820×2300	1000×1820×2300	1000×1820×2300
	(A) Rated current	630~3150A			
	Vacuum circuit breaker NV1-24(15)				
	Current transformer LZZB9-24(15)				
	Voltage transformer	3		3	3
	High-voltage fuse	3	3	3	3
	Earthing switch				
	Lightning arrester			3	3
Application		Measurement + tie	Fuse	Measurement + tie	Measurement + tie
Remark					

Scheme number		17	18	19	20
Scheme of primary wiring					
Electrical element of main circuit	Dim. of cabinet body (WxDxH) mm	1000×1820×2300	1000×1820×2300	1000×1820×2300	1000×1820×2300
	(A) Rated current	630~3150A			
	Vacuum circuit breaker NV1-24(15)	1	1		
	Current transformer LZZB9-24(15)	2~3	2~3	3	3
	Voltage transformer			2	3
	High-voltage fuse			3	3
	Earthing switch				
	Lightning arrester		3		
Application		Tie	Tie	Tie + metering	Tie + metering
Remark					

Scheme number		21	22	23	24
Scheme of primary wiring					
Electrical element of main circuit	Dim. of cabinet body (WxDxH) mm	1000×2150×2300	1000×2150×2300		
	(A) Rated current	630~3150A			
	Vacuum circuit breaker NV1-24(15)	1	1		
	Current transformer LZZB9-24(15)	2~3	3		
	Voltage transformer				
	High-voltage fuse				
	Earthing switch				
	Lightning arrester		3		
Application		Tie	Overhead incoming line		
Remark					

KYN28A-12(10-11KV)

Armored removable AC metal-enclosed switchgear



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

Overview

This equipment is indoor metal armoring with draw-able switchgear (hereafter refer to as switchgear. 3.6- 12kilovolt three phase AC 50Hz single bus bar and the single bus bar subsection system's complete 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.

Use environmental conditions

1. Normal condition

a. Surrounding air temperature:- 10C ~+40° C

b. Altitude: 1000M

c. Relative environment humidity: The daily relative humidity average is not higher than 95%, the monthly relative humidity average is not than higher 90%

d. Earthquake : The intensity does not exceed 8 degree.

e. The surrounding air without corrosive or flammable gas or water vapour.

f. 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.

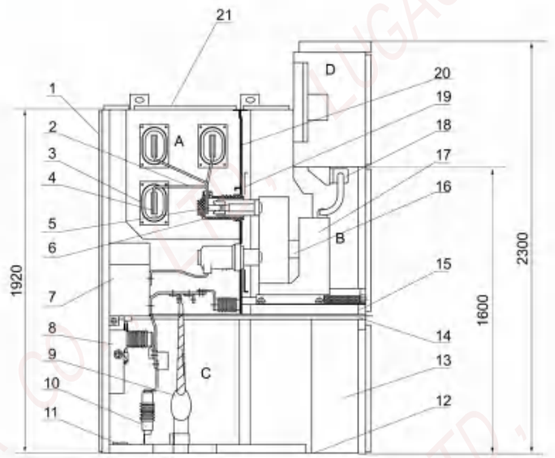
The main technical parameters

Item	Unit	Data	
		equipped with breaker	
		ZN63A-12(VS1)	VD4
Rated voltage	kV	12	12
1 min working frequency endurable voltage	kV	42	42
Shock endurable rated voltage	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 shell is IP4X, and when the compartment door and handcart door are open, it is IP2X	
Quality	kg	700~1200	700~1200

Structure Introduction

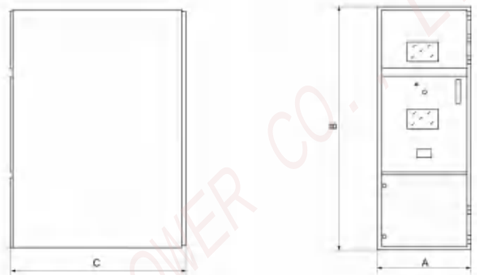
The switch equipment is designed according to GB3906-91 metal armoring seal switch equipment. The rectifier body is made up of the cabinet body and draw-out parts (namely handcart) placed in the middle. See charter 1. The cabinet divides into four separate rooms, the outer covering protection grade is 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.

Switchgear structure diagram

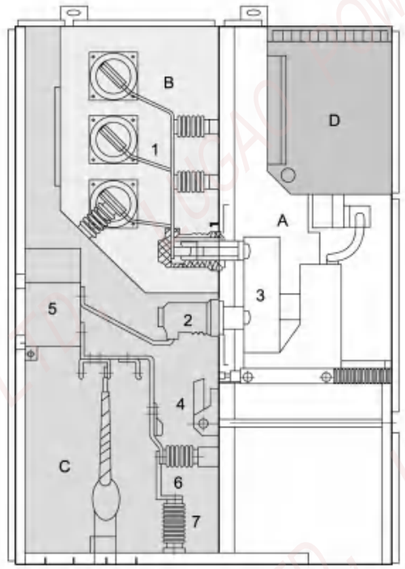


A、the bus bar room
B、the circuit breaker handcart room
C、the cable room
D、the relay instrument room
1、cover
2、branch small bus bar
3、bus bar pipe
4、main bus bar
5、static contact installation
6、contact box
7、current mutual induction
8、earthed switch
9、cable
10、arrester
11、earthed main bus bar
12、mother 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

Switchgear Dimensions



Switchgear Dimensions




A Handcar


B Bus chamber


C Cable chamber

A Handcara

The framework of handcart is made of steel sheet through the procession of CNC machine tool and rivet welding. According to the application, the handcarts can be divided into circuit breaker hand-cart, voltage transformer handcart, isolating handcart and metering handcart, etc. The handcarts of the same specification can be exchanged conveniently. In the cabinet, the handcart has isolating position, testing position and operating position, each of which is designed with a location device to assure that the handcart can 't move easily at the above-mentioned positions, while the interlock must be unlocked to move the handcart.

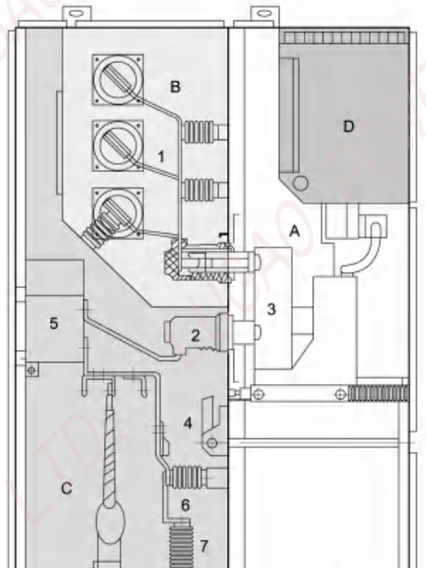
B Bus chamber

The bus is led from one switch cabinet to another one and fixed with static contact box through branch bus. The fat branch bus is connected through the bolt to the static contact box and main bus,not needing any other line clamps or insulators. When there is special demand of the clients or the project, the connecting bolt on the bus bar can be encapsulated with insulation and end cap. When the bus crosses the baffle of the switch cabinet, fix it with bus bushing, so that, if there is any internal fault arc, it can prevent the fault spreading to another cabinet and can guarantee the mechanical strength of the bus.

C Cable chamber

Inside the cable chamber, the current transformer, grounding switch, arrester and cable can be installed, and on the bottom is designed slotted removable aluminum sheet to assure the convenient site construction.

Switchgear Dimensions




D
Relay instrument chambe


Pressure releasing device

D Relay instrument chamber

Relay instrument chamber is used to install all kinds of components, such as relays, instruments, signal indicator and operating switch, etc. In addition, it's available to add a small bus chamber on the top of the instrument chamber according to the demand of the clients, and set 16 lines to control the small bus.

Pressure releasing device

On the handcart chamber, bus chamber and cable chamber is installed pressure releasing device. When there is internal fault arc in the breaker, main bus or inside the cable chamber, and with the appearance of electric arc, the internal pressure in the switch cabinet rises. After it rises to a certain pressure, the pressure releasing metal sheet of the top device will be opened automatically, and the pressure and the gas are released to guarantee the safety of the operator and the switch cabinet.

Latching device

Latching device is used to connect the central exit and cabinet body, and the lifting device is also designed to make it more convenient to open the central exit. When the central exit stays closed, the connecting strength with the cabinet body is the best and the capability against the internal arcing fault effectively is strengthened.

XGN66-12

High voltage switchgear series

LUGAO



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

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.

Model and meaning

X G N 66 - 12 (Z)

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

Use environmental conditions

1. The altitude does not exceed 1000m.
2. Ambient temperature: -25 ° C ~ +40 ° C, the average temperature within 24 hours does not exceed +35 ° C.
3. The horizontal inclination is no more than 3 degrees.
4. The intensity of the earthquake does not exceed 8 levels.
5. No severe vibration and shock and explosion hazard.

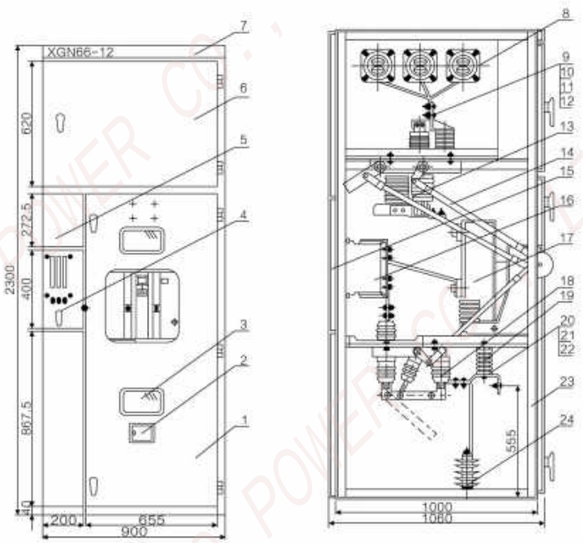
Structural features

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.

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

Main technical parameters of vacuum circuit breaker



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

HXGN □ -12

High voltage switchgear series



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

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 mis operating 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.

Use environmental conditions

1. The altitude should not exceed 2000m.
2. Surrounding air temperature: -25°C ~+40°C
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

Using

HXGN □ -12 (SF6) unit type exchange metal ring- net switching equipment, is suitable to exchange 50Hz、12K, searving as device of receiving and distribution of electrical energy.

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

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	

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 com-ponents 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.

SRM-12

Fully sealed fully insulated inflatable ring network switchgear

LUGAO



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

Overview

SRM-12itchgear, which can be used by load switch unit, load switch fused 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 machinery. The performance is affected by the environment and climate, small and compact, easy to in-stall, easy to operate, no maintenance, and a flexible combination. Clear and intuitive design ensures easy operation direct. Feeder wiring capacity is large, suitable for a variety of wiring systems.

Model and meaning

S R M □ 12/24 CFV

- CFV — Combination scheme
- 12/24 — Voltage level (kV)
- M — fully insulated switchgear
- R — Indoor
- S — Fixed type
- S — Box structure

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 bus-bar 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 bus-bars 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 module breaker unit
Rated voltage		kV	12	12	12
Rated current		A	630	125Note(1)	630
Power frequency withstand voltage / 1 minute	Phase/phase	kV	42	42	42
	Fracture	kV	48	48	48
Impact pressure	Phase/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	Note(2)	-	-
Rated short-time withstand current /3s		kA	20	-	20
Rated peak withstand current		kA	50	1700	50
Rated transfer current		A	-	Note(3)	-
Rated short-circuit breaking current		kA	-	-	20
Rated short-circuit current		kA	50	-	-
Rated short circuit breaking frequency		second	-	-	30
Rated short circuit closing times (load switch/ grounding switch)		second	5/5	-	-
Rated current breaking frequency		second	＞100	-	-
Number of mechanical operations (load switch/ grounding switch)		second	5000/2000	5000/2000	30000

Note: 1, depending on the rated current of the fuse; 2, open breaking 1250KVA no-load transformer; 3, depending on high-voltage fuses;

Non- extended standard modules

A total of the following 15 standard combinations

Each module of XGN0-12 non- expansion standard modular unit cabinets has the following configuration

◆ D cabinet a lifting module

Standard Configuration and Features of "Cable Connection Module without Grounding Knife"

◆ C cabinet one load switch touch block

Standard Configuration and Characteristics in "Load Switch Modular Block"

◆ F cabinet-load switch fuse assembly cross section

"Standard Configuration and Features of Load Switch Fuse Combination Module"

◆ V cabinet vacuum switch cross piece

Standard Configuration and Features in "Vacuum Switch Module"

◆ Capacitive Voltage Indicator for Inlet Sleeve

◆ Install a pressure gauge for monitoring SF6 density in each air chamber

◆ lifting lug

◆ Operation handle

◆ Optional

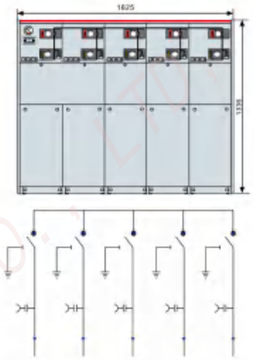
Electric operating mechanism

Cable short circuit and ground fault indicator

Current transformers and meters

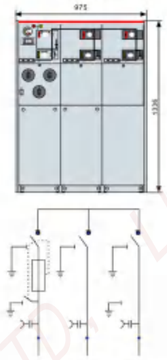
Remote monitoring and connection

CCCCC



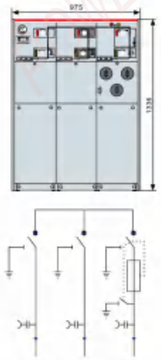
Standard 5-wayCCCCC (480kg)

FCC



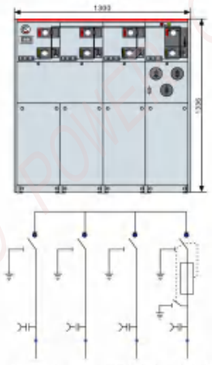
Standard 3-wayFCC (320 kg)

CCF



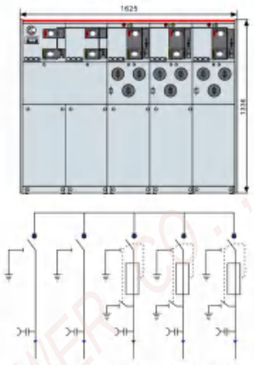
Standard 3-wayCCF (320kg)

CCCF



Standard4-wayCCCF (410 kg)

CCFFF



Standard 5-wayCCFFF (540 kg)

CF



Standard 2-wayCF (260 kg)

LGSM6-12/24/40.5

Series Ring Main Unit

LUGAO



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

Overview

The LGSM6 series SF6 ring main unit and load switch cabinet are a new generation of switchgear equipment that use SF6 load switches as the main switching elements. This product is widely used in ring network power supply or double amplitude radiation power supply systems due to its excellent performance, compact design, and expandable design concept. It is used to turn on and off load currents and overload currents, as well as to turn on and off no-load long lines, no-load transformers, and capacitor banks. This switchgear adopts a series combination of high-performance load switches and current limiting fuses, which can replace circuit breakers. The load switch is responsible for closing and breaking various load currents, while the current limiting fuse is responsible for breaking larger overload currents and short-circuit currents. The LGSM6 modular sulfur hexafluoride ring main unit is a compact and expandable metal enclosed switchgear suitable for distribution automation, which uses a hexafluoride drain switch as the main switch and air insulation as the whole cabinet. It has the characteristics of simple structure, flexible operation, reliable interlocking, and easy installation. It can provide satisfactory technical solutions for various application scenarios and different user requirements. The adoption of sensing technology and new protective relays, coupled with advanced technical performance and lightweight and flexible assembly solutions, can fully meet the constantly changing needs of the market, The main switch of XGN unit type sulfur hexafluoride ring main unit can be equipped with FLN36D or ABB SFG SF6 load switch produced by our company. It can also be equipped with Ukrainian BP series permanent magnet mechanism vacuum circuit breaker or ABB HD4 SF6 circuit breaker with contemporary international high-tech level, or equipped with RVM-12 permanent magnet mechanism vacuum circuit breaker produced by our company according to user needs. The main switch inside the ring main unit can be operated manually or electrically. Cooperating with FTU and RTU can meet the requirements of "four remote". The product complies with the GB3804, 3906, 11022, IEC298, 265, 129, 694, 420, 56, 529, and 932 standards.

Environmental conditions for use

- Altitude ⩽ 2500m;
- Surrounding temperature:+45 °C ~-25 °C ,
- Maximum temperature difference: ⩽ 25 °C ;
- Daily average relative humidity: ⩽ 95%;
- Monthly average relative humidity: ⩽ 90%;
- Seismic intensity: ⩽ 8 degrees;
- No flammability, explosiveness, serious pollution, chemical corrosion, or severe vibration.

Main technical parameters

serial number	project		unit	parameter			
1	rated voltage		kV	12	24	36	40.5
2	rated current		A	630/1250			
3	rated frequency		HZ	50/60			
4	1-minute power frequency withstand voltage	Total value	kV	42	55	80	95
		fracture		48	65	95	110
5	Lightning impulse withstand voltage	Total value	kV	75	125/150	170	95
		fracture		85	150/160	185	215
6	Rated short-time withstand current	main circuit	KA	25/2S			
		ground loop		25/2S			
7	Rated peak withstand current		KA	63			50
8	Rated transfer current		A	1300-1700			
9	Rated load closing and breaking current		A	630			
10	Rated cable charging breaking current		A	51/10			
11	Breaking current of no-load transformer		A	20			
12	Cable charging grounding fault interruption current		A	100			80
13	Rated short-circuit breaking current		KA	20			
14	Rated short-circuit closing current		kA	63			50
15	protection level			IP3X			
16	Load switch lifespan		time	5000			
17	Grounding switch lifespan		time	5000			

C-GIS 40.5KV

SF6 gas insulated switchgear

LUGAO



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

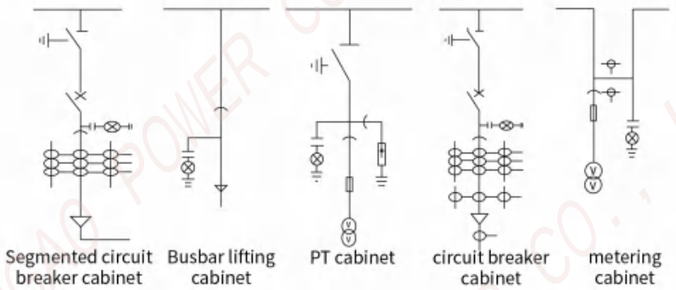
Overview

The C-GIS 40.5KV SF6 gas insulated AC metal enclosed ring network switchgear adopts low pressure and SF6 gas as the main insulation medium. It is a new type of switchgear that can receive or distribute electrical energy and control the normal operation and fault conditions of the power system, including protection, measurement, monitoring, communication and other functions. It has a wide range of application scenarios in green new energy generation and grid connection, distribution system upgrading and transformation, and overseas export of rail transit.

Product Parameters

project		unit	parameter
rated voltage		kv	40.5
rated current		a	1250/1600/2000/2500/3150
rated frequency		hz	50
rated power frequency withstand voltage	alternating and relative to each other	kv	95
	isolation fracture		118
rated lightning impulse withstand voltage	alternating and relative to each other	kv	185
	isolation fracture		215
secondary circuit power frequency withstand voltage		v	2000
rated short-time withstand current (4s)		ka	25/31.5/40
rated peak withstand current		ka	63/80/100
rated short-circuit closing current (ω value)		ka	63/80/100
rated short-circuit breaking current		ka	25/31.5/40
rated operating sequence			o-0.3s-co-180s-co
mechanical life	circuit breaker	time	10000
	disconnecting switch		3000
	grounding switch		3000
protection level			gas box ip67/cabinet ip4x
qi xiu jue			SF_6
rated gas charging pressure (gauge pressure at 20 ℃)		mpa	0.05
minimum functional pressure of gas (gauge pressure at 20 ℃)			0.03
gas micro moisture content (ambient temperature 20 ℃)		μ l/l	⩽ 150
annual gas leakage rate		year	⩽ 0.01%
Product dimensions		mm	600 wide, 2520 high, 1750 deep (1250A) 750 wide, 2520 high, 1750 deep (2500A)

Switchgear scheme



SRM-40.5

series switch cubicle



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

Overview

SRM-40.5 is a small metal sealed switchgear system for 40.5kV power distribution system. Because of its expansibility, the switchgear can realize the combination of full modularity and half modularity and has unique flexibility.

The stainless steel gas chamber of SRM-40.5 Series is filled with Sf6 gas, all live parts and switches are completely sealed and isolated from the outside. This fully sealed system keeps internal switches and all live parts free from external environmental changes, which ensures high reliability, personnel safety and maintenance-free operation.

SRM-40.5 can be equipped with a set of expansion casing(left / right) connected to the busbar for extension or full modularization.

The external busbar shall be mounted on the switchgear on site.

For protection of transformer, SRM-40.5 provides two ways: Switch-fuse combination;

Vacuum circuit breaker unit for relay protection.

Overview

The following equipment is provided together with the standard equipment:

- ◇ Operating handle
- ◇ Lifting lugs for easy handling
- ◇ Busbar, 600A
- ◇ Ground busbar
- ◇ Adjustable cable support busbar
- ◇ SF6 gas density meter
- ◇ Front cover of cable chamber interlocked with earthing switch
- ◇ Side plate

Technical data

Technical data		UnIT C		UnIT F		UnIT V	
		Load switch	Earthing switch	Switch-fuse combination-fuse combinations	Bottom earthing switch	Vacuum circuit breaker	Earthing switch/switch disconnector
Rated voltage	KV	36/40.5	35/40.5	36/40.5	36/40.5	36/40.5	36/40.5
Power frequency withstand voltage	KV	70/95	70/95	70/95	70/95	70/95	70/95
isolating distance	KV	80/110		80/110			80/110
Lightning impulse withstand voltage	KV	170/185	170/185	170/185	170/185	170/185	170/185
isolating distance	KV	195/215		195/215			195/215
Rated current	A	630/630		200/2002		630/630	
Breaking capacity:							
Active load	A	630/6330		200/200			
Breaking of closed-loop current	A	630/630		200/200			
Charging of no-load cable	A	20/21		20/21		50(C1)	
Ground fault	A	60/63		60/63			
Charging of ground fault cable	A	35/36		35/36			
Transfer current	A			840/750			
Short-circuit breaking current	KA			20 (prospective)		20/20(E1, S1)	
Closing capacity	KA	50/50 (5 times)	50/50 (5 times)	50 (prospective)	2.5, /2.5(5 times)	50/50	50/50
Class (electric life)		E3/E2	E2/E2	-/-	E2/E2	E2/E2	E2/E2
short-time withstand current	KA	20/20	20/20	Limited by high-voltage fuse wire		20/20	20/20
Classification of internal arc IAC AFL, 1s	KA	20/20		20/20		20/20	

Depends on the rated current value of fuse

SRM-40.5 series conform to standards GB/IEC. GB3804-2004、GB16926-1997、GB3906-2006、GB1984-2003 To test

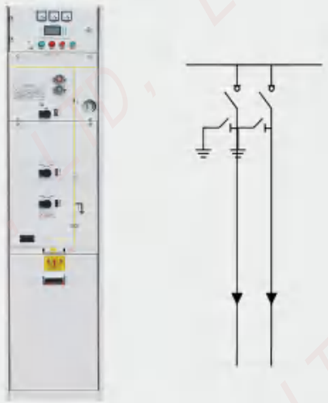
Optional configuration

- ◇ Reserved bus extension
- ◇ Interlocking
- ◇ Unlock the interlock of front cover of cable chamber and earthing switch
- ◇ Internal low pressure signal (INO) connected to terminals (one per gas chamber)

Optional accessories

- ◇ Intrusion Detection Systems (IDS).

C-Cable switch



(Depth): 905mm
(Width): 496mm
(Height): 2060mm

Standard configuration

- ◇ Double-station load switch and independent earthing switch
- ◇ Double-station single-spring operating mechanism with two independent operating shafts operate the load switch and the earthing switch respectively
- ◇ Switch position indication of load switch and earthing switch
- ◇ Horizontally arranged KUII-40.5 series bolted cable outlet casing in the front, 630A
- ◇ Voltage indicator, indicating that the cable outlet casing is powered
- ◇ Standard cable chamber cover with interlock with earthing switch
- ◇ Busbar, 630A
- ◇ Ground busbar

Standard configuration

◇ Electric operating mechanism of load switch
◇ Auxiliary node
◇ Load switch, 2NO + 2NC
◇ Earthing switch, 2NO + 2NC
◇ The interlocking earthing switch will be closed when the inlet wire is powered
110/200 VAC/DC
◇ Short a circuit and earthing fault indicator
◇ Cable chamber cover for parallel double a cable / surge arrester
◇ Roni's key interlocking device
◇ Inlet double a cable
◇ Inlet cable arrester
◇ Cover of double a cable chamber
◇ Current transformer (CT)
◇ CT for measurement, ampere meter is optional
◇ CT for metering, watt hour meter is optional
◇ Secondary equipment (installed in the top low a voltage box / secondary cable chamber) a Side extension
◇ High low a voltage chamber with hinged doo

Technical data

Load switch			
Rated voltage	kV	36	40.5
Power frequency withstand voltage	kV	70	95
Isolating distance	kV	80	110
Lightning impulse withstand voltage	kV	170	195
Isolating distance	kV	195	215
Rated current	A	630	
Breaking capacity			630
Active load	A	630	630
Breaking of closed-loop current	A	630	630
Charging of no-load cable	A	20	21
Ground fault	A	60	63
Charging of ground fault cable	A	35	36
Closing capacity	kA	(5times)	(5times)
Closs of electric life		E3	E2
3s short-time current	kA	20	20
Classification of internal ore IACAF, Is	kA	20	20
Mechanical operating times	1000 limes close/open, manual operation		
Earthing switch			
Rated voltage	kV	36	40.5
Power frequency withstand voltage	kV	70	95
Lightning impulse withstand voltage	kV	170	185
Closing capacity	kA	(5times)	(5times)
Is short-lime current	kA	20	20
3s short-time current	A	20	20
Class (electric life)		E2	E2
Mechanical operating times r	1000 limes close/open, manual operation		

F-load switch-fuse-combination unit



(Depth): 905mm
(Width): 496mm
(Height): 2060mm

Standard configuration

◇ Rated value of fuse: 40.5kV, maximum fuse is 63A
◇ Dual station load switch and independent main grounding switch
◇ Bottom grounding switch, linked with the main grounding switch
◇ Mechanical interlocking between grounding switch and load switch
◇ Position indication of load switch and grounding switch
◇ Double spring mechanism with two separate operating shafts, used for disconnecting loads and grounding
◇ DIN type fuse tube, only accessible when the grounding switch is closed.
◇ Fuse tripping system
◇ Fuse tripping indication
◇ The KU11-40.5 series bolt type cable outlet sleeve, located horizontally at the front, is equipped with a conduit and a voltage divider capacitor for live indicators.
◇ Main busbar, 630A
◇ Grounding busbar
◇ Cable compartment front cover plate interlocked with grounding switch
◇ Live indicator

Standard configuration

◇ Electric operating mechanism of load switch
◇ Closing and opening coils
◇ Auxiliary nodes
◇ Load switch 2NO+2NC
◇ Grounding switch 2NO+2NC
◇ Fuse is blown, 1NO
◇ Roni's key interlock device on the grounding switch
◇ Side Expansion
◇ High and low voltage chamber with school chain door
◇ Double cable room cover plate
◇ Current Transformer (CT)
◇ Expensive CT measurement, optional ammeter
◇ CT for bean counting, optional power distribution meter
◇ Secondary installation is recommended (installed in the top low-pressure rice/secondary line compartment)

Load switch

Switch-fusecombination			
Rated voltage	kV	36	40.5
Power frequency withstand voltage	kV	70	95
Isolating distance	kV	80	110
Lightning impulse withstand voltage	kV	170	195
Isolating distance	kV	195	215
Redcurrant	A	200	200
Breaking capacity			
Active load	A	200	200
Breaking of closed-loop current	A	200	200
Charging of no-load cable	A	20	21
Ground fault	A	60	63
Charging of ground fault cable	A	35	36
Transfer current	A	840	750
Closing capacity	kA	50	50
Classification of internal ore IACAFL, Is	kV	20	20
Mechanical operating times		1000 limes close/open, manual operation	
Main earthing switch			
Rated voltage	kV	36	40.5
Power frequency withstand voltage	kV	70	95
Lightning impulse withstand voltage	kV	170	185
Closing capacity	kA	50	50
Closs of electric life		E2	E2
3s short-time withstand current	kA	20	20
Mechanical operating limes		1000 limes close/open, manual operation	
Bottom earthing switch			
Rated voltage	kV	36	40.5
Power frequency withstand voltage	kV	70	95
Lightning impulse withstand voltage	kV	170	185
Closing capacity	kA	2,5(5times)	2,5(5times)
Class (electric life)	kA	E2	E2
3s short-lime withstand current	kA	1	1
Mechanical operating times		1000 limes close/open, manual operation	

V-vacuum circuit breaker



(Depth): 905mm
(Width): 496mm
(Height): 2060mm

Standard configuration

◇ 630A vacuum circuit breaker
◇ Spring operated mechanism, supporting automatic reclosing
◇ Dual position operating mechanism for isolating switch and grounding switch.
◇ Mechanical interlocking between vacuum circuit breaker and isolating switch
◇ Switch position indication for vacuum circuit breakers, isolating switches, and grounding switches
◇ Self powered protective relay with dedicated ring current transformer
◇ Trip coil (for relay tripping)
◇ The SRM-40.5 series bolt type cable conduit located horizontally at the front is equipped with a voltage divider capacitor for live indicators.
◇ Main busbar, 630A
◇ Grounding busbar
◇ Integrated low voltage chamber
◇ Counter
◇ Cable compartment front cover plate interlocked with grounding switch
◇ Live indicator

Overview

- ◇ Electric operation of vacuum circuit breaker
- ◇ High and low voltage chambers with school chain doors
- ◇ auxiliary node
- ◇ Vacuum circuit breaker 2N0+2NC
- ◇ Isolation switch 2N0+2NC
- ◇ Grounding switch 2N0+2NC
- ◇ Circuit breaker trip signal 1NO
- ◇ Closing and opening coil
- ◇ Double cable cover plate
- ◇ Dual cable
- ◇ Incoming lightning arrester
- ◇ Roni's key interlock device on the isolation switch
- ◇ protection relay
- ◇ Current Transformer (CT)
- ◇ Protective CT
- ◇ CT for bean testing, optional ammeter
- ◇ Measurement using CT, optional distribution meter
- ◇ Side Expansion

Technical data

Vacuum circuit breaker module			
Rated voltage	kV	36	40.5
Power frequency withstand voltage	KV	70	95
Lightning impulse withstand voltage	KV	170	195
Rated current	A	630	630
Breaking capacity	KA	20	20
Short-circuit breaking current (E2, S1)	A	50	50
Cable charging breaking current(C1)	KA	50	50
Closing capacity	KA	20	20
3s short-lime withstand current			
Classification of internal arc IACAFL, Is	KA	20	20
Rated operating sequence		0-0,3s-C0-180s-CO	
Mechanical operating times		1000(M2)	
Switch disconnector and earthing switch			
Rated voltage	KV	36	10.5
Power frequency withstand voltage	KV	70	95
Isolating distance	KV	80	110
Lightning impulse withstand voltage	KV	170	185
Isolating distance	KA	195	215
Closing capacity		50	50
Closs of electric life	KA	E2	E2
3s short-time withstand current	KA	20	20
Classification of internal arc IACAFL, Is	kA	20	20
Mechanical operating limes		1000 limes close/open, manual operation	

LG □ -12

Fully sealed fully insulated ring main unit



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

Overview

LG □ -12 environmentally friendly gas insulated ring main unit is developed by our company to meet customers' requirements for environmental protection and comply with the standardized design requirements of State Grid. Compared with ordinary inflatable cabinets, this product avoids the use of SF6 greenhouse gas and has excellent features such as reasonable design, reliable power supply, compact structure, easy installation, flexible operation, small size, and high cost-effectiveness. It is suitable for three-phase AC 50Hz, rated voltage 12kV distribution systems. Especially suitable for receiving and distributing electrical energy in small secondary distribution stations, switch stations, industrial and mining enterprises, urban residential areas, airports, railways, tunnels, high-rise buildings and other power systems.

Model and meaning

LG □-12 (□)/T □-□

- Rated short-circuit breaking/rated short-time withstand current (kA)
- Rated current (A)
- Type of operating mechanism (bullet operated)
- Main switch type (Z: vacuum circuit breaker) (F: vacuum load switch) (F · R: vacuum load switch fuse combination)
- Rated voltage (kV) (expressed in tens and ones digits)
- DesIgn Serial Number
- Enterprise model

Terms of Use

◇ Environmental temperature: -45 ℃ ~+45 ℃

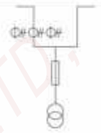
◇ Humidity: Monthly average relative humidity ⩽ 90%; Daily average humidity ⩽ 95%

◇ Altitude: Ordinary type ⩽ 2000 meters; Plateau type ⩽ 4000 meters

◇ Seismic resistance: 8 degrees

Protection level: Sealed air box IP67, switchgear enclosure IP4X

Terms of Use

functional unit	circuit breaker cabinet	Load switch cabinet	Voltage transformer cabinet	metering cabinet
One time scheme diagram				
Overall dimensions	Side expansion 420 × 925 × 2000 Top expansion 420 × 925 × 1950 (Width x Depth x Height)	Side expansion 420 × 925 × 2000 Top expansion 420 × 925 × 1950 (Width x Depth x Height)	Side expansion 600 × 925 × 2000 Top expansion 600 × 925 × 1950 (Width x Depth x Height)	Side expansion 750 × 850 × 2000 Top expansion 750 × 850 × 1950 (Width x Depth x Height)

GT-XGN15-12

Solid insulated ring main unit



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

Overview

The GT-XGN15-12 solid insulated ring network switchgear is a new generation of miniaturized and modular electrical switchgear. Its main feature is that the main circuit adopts a three-phase longitudinal arrangement to combine the functions of three position isolating switches and vacuum circuit breakers together. The entire device has a compact structure, small size, and adopts fixed installation. It can be widely used in 3-12kV three-phase AC 50Hz power systems, suitable for various types of box type substations and ring network distribution systems.

The three position isolation switch has three positions: closing, isolation, and grounding. It adopts a spring operated mechanism, and each position is reliably positioned with a clear isolation fracture.

The circuit breaker mechanism adopts a modular design, with fewer components, compact structure, low operating power, and more stable performance.

There is a complete mechanical interlock between the isolation switch mechanism and the vacuum switch mechanism to ensure safe and reliable operation.

Model and meaning

LG X G N 12 □ - □

- Rated breaking short-circuit current (kA)
- Rated current (A)
- Rated voltage (kV)
- Indoor ("W" stands for outdoor)
- Fixed type
- Box type
- Enterprise model

product category

According to the type of switch, it is divided into load switch with grounding assembly (referred to as C module), load switch without grounding assembly (referred to as CB module), circuit breaker with grounding assembly (referred to as V module), circuit breaker without grounding assembly (referred to as VB module), circuit breaker interconnection switch (referred to as VZ module), load switch+fuse combination switch assembly (referred to as F module), and isolation switch assembly (referred to as G module).

Conditions of Use

1. Environmental temperature: -45 °C ~+45 °C
2. Humidity: Maximum average relative humidity, daily average ⩽ 95%, monthly average ⩽ 90%
3. Altitude: ⩽ 4000 meters
4. Seismic resistance: 8 degrees
5. Protection level: IP67 for live body sealing, IP67 for fuse barrel, IP3X for switchgear enclosure

Functions and features

environment protection

The materials used in product manufacturing are all non-toxic and harmless substances, and no toxic or harmful substances are emitted during use. The materials can be recycled and reused after their life cycle, which determines the environmental friendliness of their use.

Fully insulated, fully sealed, and fully shielded epoxy resin switch housing and fuse housing (epoxy resin has excellent electrical, mechanical, and thermal properties, and has been used in electrical equipment for a long time, achieving good performance. The switch housing and fuse housing are formed using epoxy resin APG technology. The insulation housing is a key component of solid insulated switches, which is both an insulation part and a load-bearing part. It is required to meet technical requirements such as heat resistance, weather resistance, cracking resistance, high mechanical strength, and good insulation strength. The housing has a large volume, many embedded parts, and various shapes, making it difficult to manufacture. Our company has many years of experience in designing and manufacturing insulation parts, and strives to ensure high-quality mass production of this component from cylinder design, material formula, and process flow. According to the user's requirements, Requirement: Can provide a cylinder with external shielding grounding that can be touched

Maintenance free:

The solid insulation indoor AC high-voltage vacuum switchgear is in a fully sealed state except for the operating mechanism, which can avoid cleaning and maintenance and reduce the cost of operation and maintenance.

Security:

Due to the use of shielding measures on touchable parts, the occurrence of personal electric shock accidents has been eliminated, improving safety and usability. A complete interlocking system, with clear and visible three-phase isolation fractures, avoids the occurrence of misoperation accidents. The application of SF6 gas has been completely eliminated, avoiding explosion accidents caused by insufficient gas pressure leading to a decrease in insulation performance and arc extinguishing ability of SF6 ring main units. Strengthen the inter phase isolation structure to prevent the expansion or triggering of explosion accidents due to inter phase or multi circuit short circuits. Adopting a vacuum arc extinguishing chamber with explosion-proof performance, the switch sleeve provides further protection for the switch. The auxiliary grounding switch of the load switch fuse combination device is sealed in the fuse barrel with a vacuum switch tube.

Operability:

The isolation switch and grounding switch only have one operating handle, so there is no need to identify or worry about errors. When the circuit breaker is running, the operating handle of the isolation switch and grounding switch cannot be operated, and the operating procedure is clear at a glance. Anyone with a little knowledge of electricians can operate it, and complex technical training is carried out in a disorderly manner. This makes the operation exceptionally simple and prevents operational errors from occurring.

Intelligence:

The switchgear is equipped with intelligent interfaces and sensor installation positions, which can meet the requirements of the smart grid after configuring intelligent equipment.

Diverse operating mechanisms:

The switch can be equipped with two operating mechanisms: spring and permanent magnet, making it convenient for users to choose.

Standards compliant

Q/GDW 730 "Technical Conditions for 12kV Solid Insulated Ring Main Unit"

GB1984 "AC High Voltage Circuit Breakers"

GB3804 3.6kV-40kV AC High Voltage Load Switches

GB1958 "AC High Voltage Isolation Switches and Grounding Switches"

GB4208 "IP Code for Degrees of Protection Provided by Enclosures"

GB 16926 High voltage AC load switch fuse combination electrical apparatus

GB/T15166.2 High voltage AC fuse group Part 2: Current limiting fuse circuit

GB/T7354 "Partial Discharge Measurement"

GB/T11022 Common Technical Conditions for High Voltage Switchgear and Control Equipment Standards

GB3906 "3.6-40.5kV AC Metal Enclosed Switchgear and Control Equipment"

LGTD

synchronous motor excitation device



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

Overview

The LGTD synchronous motor excitation device adopts digital control technology, with microcomputer monitoring of the synchronous motor operation status, precise control, strong anti-interference ability, friendly host interface, easy and fast operation, stable and reliable operation. Widely used for synchronous motor drive of general mechanical equipment such as mining ball mills, smelting blowers, cement plant tube mills, fertilizer plant combined compressors, carbon dioxide compressors, refrigerated ammonia compressors, oxygen concentrators, water pumps, etc. The equipment is mainly used to provide DC excitation power for large synchronous motors, and is used in conjunction with single synchronous motors.

Model and meaning

LGTD □ - □

- Suitable for motor excitation voltage, unit: V
- Suitable for motor excitation current, unit: A
- Synchronous motor excitation cabinet

Performance Characteristics

◆ Adopting digital control technology improves the reliability of system operation, with precise control and no need for debugging;

◆ The reset circuit of this device can automatically resume operation under severe interference conditions, ensuring continuous operation of the system;

◆ Using a combination of hardware detection and software judgment, perform full voltage, excitation, and fault reporting to ensure the polarity of slip excitation and backup excitation;

◆ The demagnetization voltage of the demagnetization circuit adopts a step-by-step automatic setting method, which has the function of misleading conduction protection;

◆ Equipped with out of step protection function, it can automatically detect out of step faults during operation and issue protection commands;

◆ Synchronous motors can automatically demagnetize during starting, stopping, and asynchronous operation to prevent the excitation device from being broken down by excessive induced voltage;

◆ The operation interface is user-friendly, and the controller's fault detection function can record the working status at the moment of fault shutdown, which is convenient for troubleshooting;

◆ Automatic zero voltage demagnetization during driving and parking, and automatic high pass demagnetization during synchronous operation of the motor, maximizing the safety of the thyristor and motor.

Performance Parameter Table

project	parameter
Main circuit voltage	Three phase AC380V~10000V
control loop	AC380V
Rated excitation voltage	50V-170V
rated field current	130A~450A
adjustment mode	Monotonic regulator, dual regulator
communication	RS485 interface
Protection level	IP20
overall structure	cabinet-type
Limitations and Protection	Minimum excitation limit, inverse time strong excitation limit, overexcitation limit, minimum reactive power limit, out of step protection, long-term non excitation protection (when the motor starts asynchronously at power frequency), PT disconnection protection, excitation control 4-20mA circuit disconnection detection protection, control power supply and regulator software and hardware failure monitoring.
Usage environment	Altitude not exceeding 1000 meters, temperature range from -10 ℃ to+50 ℃ , relative humidity less than 85% RH, no knots, indoor installation, no conductive dust, no corrosive gases, no explosion hazard,

BWG

Photovoltaic grid connected cabinet



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

Overview

Photovoltaic grid connected cabinets are suitable for AC 50Hz, rated working voltage 380V, and rated working current 2000A distribution systems for ground centralized, ground series, and ground distributed power users. They are used for power conversion, distribution, and control of power, lighting, and distribution equipment. The product has the characteristics of high breaking capacity, good dynamic and thermal stability, flexible electrical scheme, convenient combination, strong practicality, novel structure, and high protection level. Can be used as a replacement product for low-voltage switchgear.

Normal operating environment

◇ The ambient air temperature should not exceed+40 ℃ and should not be lower than -5 ℃ . The average temperature within 24 hours shall not exceed+35 ℃ .

◇ Indoor installation and use, the altitude of the usage location shall not exceed 2000m.

◇ The relative humidity of the surrounding air should not exceed 50% at a maximum temperature of+40 ℃ , and a higher relative humidity is allowed at lower temperatures. (For example, 90% at+20 ℃) should take into account the possibility of occasional condensation due to temperature changes.

◇ During equipment installation, the inclination with respect to the vertical plane should not exceed 5 ° .

◇ The equipment should be installed in a place without severe vibration and impact, as well as in a place where electrical components are not susceptible to corrosion.

◇ When users have special requirements, negotiate with the manufacturer to resolve them.

Structural features

Worry free: With a high degree of automation, it can operate stably for a long time without the need for human intervention.

Flexibility: The number of input channels for communication (inverter) can be designed into multiple channels according to the actual situation.

Safety: It has multiple protection functions such as voltage loss detection tripping, voltage detection closing, lightning protection, and islanding protection.

Reliable: It can be equipped with components from well-known domestic and foreign brand manufacturers according to customer needs.

Advanced: Adopting technologies such as permanent magnet control, microcomputer protection fast algorithm, and high-speed signal processing.

Intelligence: It can collect voltage, current, frequency, active power, and reactive power, measure energy in four quadrants, and use ModBus RTU communication protocol to achieve local/remote data monitoring through RS485 communication interface.

Implementation standards for photovoltaic grid connected cabinets

GB 7251.1-2013 "Low voltage switchgear and control gear - Part 1"

GB 7251.12-2013 "Low voltage switchgear and control gear - Part 2"

GB 4208-2008 "Degrees of Protection Provided by Enclosures"

GB 9466.1-1997 Basic Experimental Methods for Low Voltage Switchgear Sets

LG-AC

Photovoltaic AC combiner box



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

Overview

The LG-AC photovoltaic AC combiner box is an important component suitable for photovoltaic string type power generation systems, which connects the string inverter with the AC distribution cabinet or step-up transformer. The incoming line of this combiner box adopts a circuit breaker input, and the output adopts a circuit breaker or load isolation switch. After the busbar is converged, it adopts secondary lightning protection. The maximum rated voltage of the system is AC690V. The protection level is IP65, which is the same as that of the string inverter. It meets the requirements of outdoor installation, and meets waterproof, dustproof, UV resistant, salt spray corrosion-resistant, etc. This product greatly simplifies the wiring between string inverters and AC distribution cabinets or step-up transformers. The internal structure of this product is simple and clear, and the wiring is neat and reasonable. High reliability and easy maintenance. Outdoor wall mounted installation can adapt to various harsh environments. In addition to standard materials and sizes, customization can be made according to user requirements.

Electrical technical parameters

Product Model	LG-AC4	LG-AC6	LG-AC8
Number of input channels	1~4	5~6	7~8
Maximum input voltage		AC690	
Each input current		0~100A	
Maximum output current	250A	400A	630A
Rated working voltage Un		480VAC	
Voltage protection level Up		⩽ 3.2kV	
Nominal flow capacity (8/20us)		20kA (optional according to customer requirements)	
Maximum current capacity (8/20us)		40kA (optional according to customer requirements)	
response time		<25ms	
Temperature and humidity		Working temperature: -40~+85 °C , humidity 95%, no condensation, no corrosive gas environment	
altitude		⩽ 4000m	
Cabinet material		Hot dip galvanized steel sheet/stainless steel sheet/cold-rolled steel sheet/engineering plastic	
Box protection level		IP65	
Protection level of cable joints		IP66	
Volume (width x height x depth)	800mmx600mmx200mm	800mmx800mmx200mm	800mmx1000mmx200mm

Functional Features

The communication combiner box has a protection level of IP65 and can meet the outdoor installation requirements for wall mounted sealed cabinets:

Satisfy the simultaneous connection of multiple group inverters, each incoming line is protected by a thermal magnetic circuit breaker, and the rated voltage reaches AC690V:

The use of dedicated high-voltage lightning arresters can meet the overvoltage and lightning protection between three phases, with a working voltage of AC480V or above:

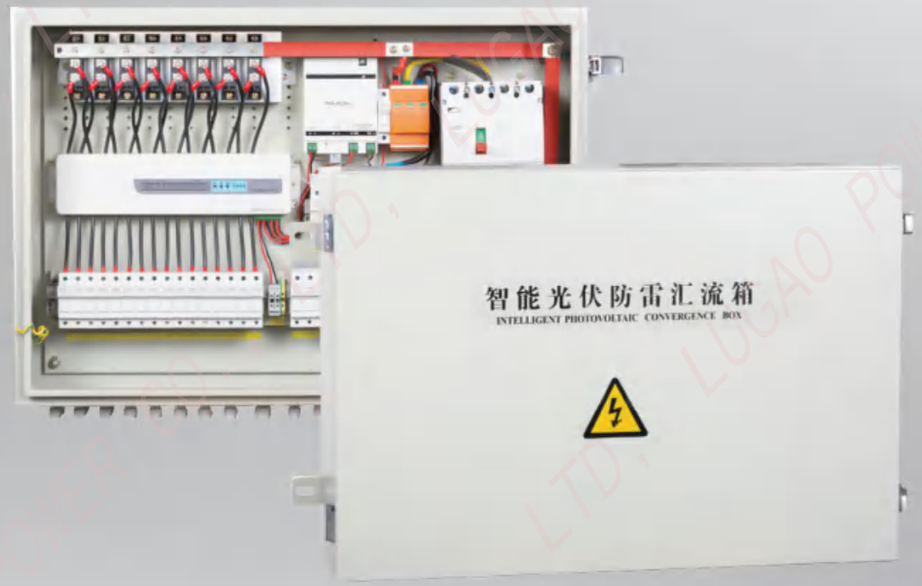
All busbars inside the box are connected using electroplated or purified busbars to reduce internal resistance and connection points;

Output is achieved through circuit breakers, load isolation switches, or fuses.

LG-PV

intelligent photovoltaic lightning protection combiner box

LUGAO



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

Overview

The LG-PV intelligent photovoltaic lightning protection combiner box combines the DC input of up to 24 photovoltaic cell module strings into one or multiple outputs, each with a fuse, and the outputs are equipped with lightning arresters and circuit breakers, greatly simplifying the input wiring of DC distribution cabinets and inverters. Provide lightning protection, short-circuit protection, and grounding protection. The combiner box is divided into two types: intelligent and non intelligent. The intelligent lightning protection combiner box is equipped with a combiner monitoring unit inside, which can monitor the input current of each photovoltaic cell string, summarize the output voltage, temperature inside the box, and the status of lightning protection devices, circuit breakers, etc. The internal layout of the device is simple and clear, with neat and reasonable wiring. High reliability and easy maintenance. Outdoor wall mounted installation can adapt to various harsh environments. In addition to related core components, others can be customized according to user requirements.

Electrical technical parameters

Product Model	LG-PV24	LG-PV16	LG-PV12	LG-PV8
Number of input channels	17~24	13~16	8~12	Below Route 8
Maximum input voltage	1000VDC			
Each input current	0~20A			
Maximum output current	250A	160A/200A	100A/125A/160A	100A 以下
Enter waterproof terminal size	PG9/PG11/MC4			
Output waterproof terminal size	PG21~PG32	PG19~PG25	PG16~PG21	PG13.5~PG19
monitor module	Detect each current, bus voltage, circuit breaker status, lightning arrester status, and box temperature (optional)			
Communication method/protocol	RS485 bus/standard MODBUS-RTU protocol			
Anti reverse function	Configure modular packaging anti reverse diode (optional)			
Temperature and humidity	Working temperature: -40~+85 ℃ , humidity 95%, no condensation, no corrosive gas environment			
altitude	⩽ 4000m			
Monitoring module power consumption	At work ⩽ 8W			
Auxiliary power supply	Auxiliary power supply: AC85V~265V/DC24V (± 10%)/DC200V~1000V			
Cabinet material	Hot dip galvanized steel sheet/stainless steel sheet/cold-rolled steel sheet/engineering plastic			
protection grade	IP65			
Volume (width x height x depth)	850mmx500mmx200mm	800mmx500mmx180mm	720mmx500mmx180mm	630mmx500mmx180mm
weight	10~35kg			

GGD

AC low-voltage fixed switchgear



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

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 enterprise 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.

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 with 20 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 multi-strand 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.

The main technical parameters

Type	Rated voltage(V)	Rated current(A)	Rated short circuit breaking current	Rated short time withstand current	Rated peak withstand current
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

Use environmental conditions

1. Ambient air temperature: -5"C~+40C 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.

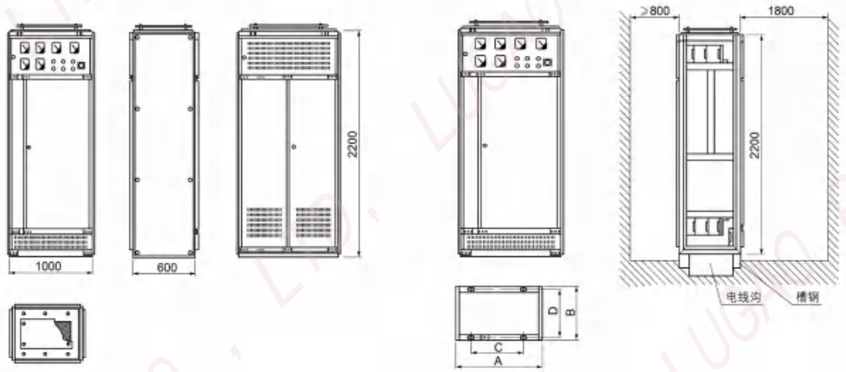
3. Relative humidity should not exceed 50% at max temperature +40C . Higher relative humidity is allowed at lower temperature. Ex. 90% at +20C . But in view of the temperature change, it is possible that moderate dews will produce casually.

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 manufacturer.

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	850	1050

Example scenario

Scheme number		1			2			3			4			5			6		
Main circuit scheme diagram																			
Purpose		Electrification			Electrification			Electrification			Electrification			Electrification Feeding			Electrification		
Electrical element of main circuit	Model specification	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
	HD13BX-1000/31				1			1			1			1					
	HD13BX-600/31					1			1			1			1				
	HD13BX-400/31						1			1			1			1	2	2	2
	DW15-1000/3[ ] Electric													1					
	DW15-630/3[ ] Electromagnetism														1				
	DW15-400/3[ ] Electromagnetism															1			
	CJ20-400/3																2		
	CJ20-250/3																		
	CJ20-160/3																		2
	LMZ1-0.66[ ]/5										1	1	1	3	3	3	2		
	LMZ3-0.66[]/5																	2	2
	(LMZ1-0.66[]/5)																		
Cabinet widthmm		600	600	600	1000	800	800	1000	800	800	600	600	600	800	800	800	800	800	800
Cabinet depthmm		600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600

Scheme number		1			2			3			4			5			6		
Main circuit scheme diagram																			
Purpose		Electrification Interconnection			Electrification Interconnection			Electrification Interconnection			Electrification Interconnection			Electrification			Electrification Interconnection		
Electrical element of main circuit	Model specification	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
	HD13BX-1000/31	1			1			1			1			2			2		
	HD13BX-600/31		1			1			1			1			2			2	
	HD13BX-400/31			1			1			1			1			2			2
	DW15-1000/3[ ] Electric				1			1			1			1			1		
	DW15-630/3[ ] Electromagnetism								1			1			1			1	
	DW15-400/3[ ] Electromagnetism									1						1			1
	LMZ3-0.66[ ]/5				3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)	3(4)
	(LMZ1-0.66[ ]/5)																		
Cabinet widthmm		600	600	600	800	800	800	1000	800	800	1000	800	800	1000	800	800	1000	800	800
Cabinet depthmm		600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600	600

GGJ

Low-voltage reactive power intelligent compensation device



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

Overview

GGJ low-voltage reactive power compensation device using computer-aided design (CAD), the introduction of microcomputer control, intelligent implementation of intelligent tracking compensation, its reasonable structure, advanced technology, widely used in Low-voltage power grid, improve power factor, reduce reactive power loss, improve power supply quality, is a new generation of energy-saving products. Dedicated to the 130-600K VA three-phase transformer reactive power compensation.

Model and meaning

GGJ □ □ - 0.38 - □ - □

- W outdoors, indoor (not marked)
- Rated capacity (kvar)
- System rated voltage (kV)
- H mixed compensation, F phase compensation, three-phase compensation (not marked)
- D dynamic compensation, static (not marked)
- Reactive power compensation device

Working conditions

altitude: S 2000m;

Ambient temperature: -20° C ~ +45° C;

relative humidity: ⩽ 90% at 20 C;

installation environment: no harmful gases and steam, no conductive or explosive dust and serious mold.

Main feature

Intelligent controller control, full-featured. Reliable performance, automatic compensation; can increase the power factor to 0.9 or more;

Real-time display power grid power factor, display range: lag (0.00-0.99), ahead (0.00-0.99);

With over-voltage, harmonic, over compensation, system failure, lack of phase, overload and other comprehensive protection;

Memory has been set parameters, the system will not lose the parameters after power failure, the grid back to normal, automatically enter the running state, no personnel on duty;

According to the grid load balance, to take the phase compensation or mixed compensation;

Anti-interference ability, can withstand the direct input from the grid amplitude of 2000V interference pulse, higher than the national professional standards.

The main technical parameters

Rated voltage: 0.38-0.66kV;

Rated frequency: 50Hz;

Rated capacity: 1-600kvar;

Applicable voltage range: (0.85-1.1) times the rated voltage;

Maximum allowable current: 1.3 times the rated current;

Control circuit: 1-16 loop;

Switching time: 1-150S 1 times, adjustable;

Work: automatic, continuous operation.

Distribution network detection function

real-time measurement and the whole point of the record transformer low-voltage side of the three-phase voltage, current, frequency, active power, reactive power, power factor, active power, reactive power; voltage and current total distortion rate and 2-25 Subharmonic content;

RS-232 and RS-485 interface, can be handheld computer data copy, but also through the remote communication function to achieve wireless meter reading, device testing, parameter settings and time measurement data and records Data reading;

data analysis function: the operation load data can be analyzed and processed, statistical query; comprehensive analysis of power supply quality, calculate the voltage pass rate, power supply load rate, reliability and maximum load rate; Query power factor, active power and reactive power; draw each phase voltage, current, power factor curve; print comprehensive analysis and statistical reports.

GCK

Low Voltage Switchgear Series



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

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 protect-ion 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.

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.

Use environmental conditions

1. Altitude above sea level should not exceed 2000M.
2. Ambient air temperature: -5°C ~+40°C and the average temperature should not exceed +35°C in 24h.
3. Air condition: With clean air. Relative humidity should not exceed 50% at +40°C .Higher relative humidity is allowed at lower temperature. Ex. 90% at +20°C .
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°C ~+55°C ,in short time (within 24h) it should not exceed +70°C .

The 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°C ~+40°C
The min temperature under store and transportation		-30°C
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

GCS

Low Voltage Switchgear Series

LUGAO



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

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 industries etc. 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.

Main 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 has relative 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 high short circuit strength capacity for main circuit.

5. Cable compartment design makes cable outlet and inlet up and down convenient.

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/0.1s)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

Use environmental conditions

1. Ambient air temperature: -5℃ ~+40℃ and the average temperature should not exceed +35℃ in 24h.

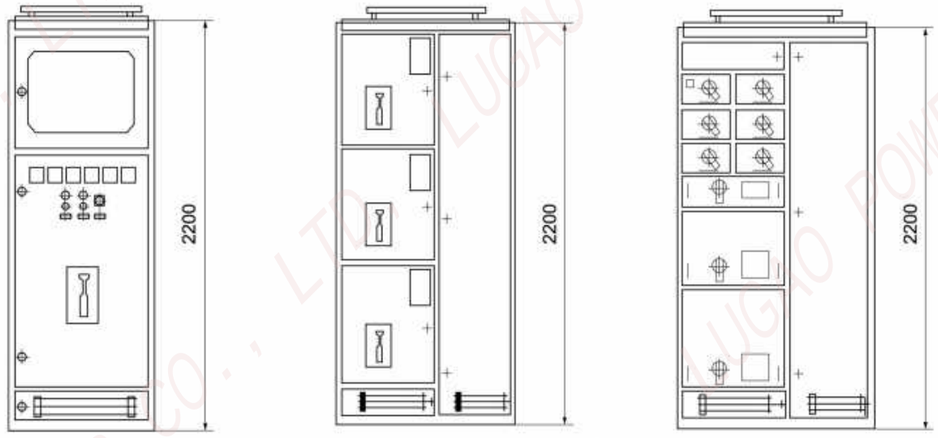
2. Relative humidity should not exceed 50% at max temperature. Higher relative humidity is allowed at lower temperature. Ex. 90% at +20℃ . But in view of the temperature change, it is possible that moderate dews will produce casually.

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.

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 Switchgear Series



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

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.

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.

The 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	Vertical 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.

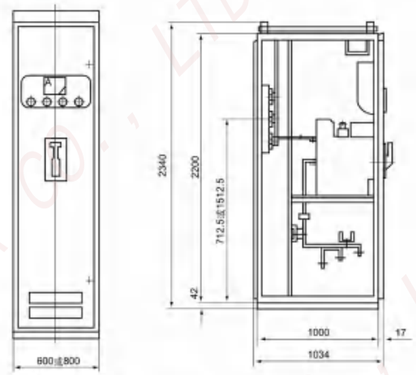
Structural features

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 tapping locking screw or 8.8 grade square corner screw. According to the change demand of project, additionally add corresponding gate, closing board, baffle plate, installation support 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).

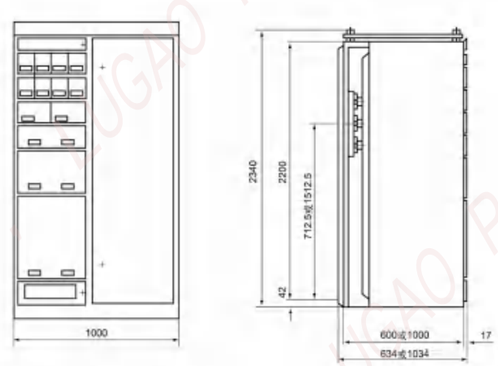
Use environmental conditions

1. Ambient air temperature: -5°C ~+40°C and the average temperature should not exceed +35°C in 24h.
2. Air condition: With clean air. Relative humidity should not exceed 50% at +40°C . Higher relative humidity is allowed at lower temperature. Ex. 90% at +20°C . 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°C ~+55°C , in short time (within 24h) it reaches +70°C . 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.

Internal structure



PC cabinet



Draw-out type MCC cabinet (Single side operation)

GZDW

DC power screen

LUGAO



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

Overview

This new generation of microcomputer controlled direct-current power supply panel GZDW/GZTW series adopts integrated module structure, is mainly composed of monitoring module, rectifier module, insulated monitoring module, battery inspection module, AC/DC monitoring module, switching value monitoring module, step-down module, distribution unit, storage battery and cabinet body, is featured with flexible configuration, stable performance, friendly interface, simple operation, intellectualized management, etc. The products are widely applied to various power plants, transformer substations, mobile communication station, industrial and mining enterprises, electrified railways, airports, havens, high-rise buildings, residential areas, etc., also can be used as operating and control source of high-voltage switch, electromechanical protection, automatic device, communication equipment, SPC exchange, electric carrier and other equipment.

Model and meaning

G Z □ W - □ □ - □ - □ - □

- Battery type
- Rated output voltage (DC): 220V,125V, 110V, 48V, 24V
- Battery capacity (Ah), dual battery packx2
- Installation mode: A. floor type, B. wall-mounted type
- Monitoring type: 1. HZ-JK01,2. HZ-JK02、3. HZ-JK03、4. HZ-JK04
- Microcomputer control type
- Application for: D. electricpower systems, T. communication systems
- Direct-current power supply
- Panel (cabinet)

Industry Standard

DL/T459-2000 Specifications of D.C supply cabinet in power system
DL/T637-1997 Specification for order of the valve regulated sealed lead-acid batteries
DL/T724-2000 Specification of operation and maintenance of battery DC power supply equipment for electric power system
DL/T781-2001 High frequency switching converter module in power system
DL/T856-2004 DC electrical source supervisor for electric power
DL/T857-2004 Specification of rectification inversion equipment for battery of power plant and substation
DL/T5044-2004 Technical code for designing DC system of power projects
DL/T5120-2000 DC System design code for small electric power project

Scope of application

This microcomputer controlled direct-current power supply panel RZ-GZDW-1/2/3/4 is an integrated power supply panel especially designed for users of different capacity. The system is mainly composed of monitoring module, rectifier module, AC/DC monitoring module, insulated monitoring module, battery inspection module, switching value monitoring module, step-down module, is featured with stable performance, friendly interface, simple operation, intellectualized management, etc. The products are applicable to transformer substations of different voltage class, power plants, industrial and mining enterprises, electrified railways, high-rise buildings, etc, also can be used as operating and control source of high-voltage switch, relay protection and automatic device.

The main technical parameters

Item	Parameter index
Rated input voltage	380VAC±20%　220VAC±20%
Rated output voltage	220VDC、110VDC
Rated output current	6A、10A、12A、20A、30A、40A、50A、60A、70A、80A、90A、100A、120A、130A、150A、180A、200A、260A、300A、・・・・・・
Capacity of storage battery	7Ah、10Ah、20Ah、38Ah、65Ah、100Ah、150Ah、200Ah、300Ah 500Ah、600Ah、800Ah、1000Ah、1500Ah、2000Ah、・・・・・・
Accuracy of voltage stabilization	⩽ ±0.5%
Accuracy of current stabilization	⩽ ±0.5%
Ripple coef cient	⩽ ±0.1%
Frequency of power grid	50Hz± 10%
Power factor	＞ 0.95% Full-load output
Insulating strength	＞ 10M、2kVAC No ashover or breakdown for 1min
Working mode	Long term continuous running
Cooling mode	Intelligent temperature-control type air cooling, high-ef cient natural cooling
Audible noise	⩽ 50dB

System Features

1)Two circuits of alternating-current input transfer automatically, ensuring normal running of system;

2) Wide input voltage range, strong power grid adaptability;

3) Adoption of high-frequency switching power supply technology, modularized design, N+ 1 hot standby, high reliability;

4) The rectifier module adopts live hot plug, convenient and quick daily maintenance;

5) High-accurate dynamic current sharing; independent, controlling or controlled running is available;

6)LCD screen, touch screen and colorized touch screen are available for selection, big screen with images and characters, has friendly interface, simple and convenient operation;

7)The monitor will carry out all-around monitoring and control to the running of system, it can realize system setting, information query, as well as "remote measurement, remote control, remote signaling, remote adjustment" four-remote function to the system through background monitoring and remote monitoring, realize unattended operation;

8)The monitor is able to control the voltage of storage battery, charging/discharging current and temperature compensation of storage battery accurately, has over/under voltage and over-temperature alarm as well as fault alarm, ensuring optimum state of storage battery, prolong the service life of storage battery;

9) Functions of manual and automatic voltage regulation, as well as branch insulation detection;

10) Reliable lightning proof and excellent insulating protection measures, guaranteeing safety for system and person;

11)RS232 and RS485 two communication interfaces, and RTU, CDT, MODBUS three types of communication protocols issued by Ministry of Electric Power for selection;

12) With expansion interface, can switch in other external equipment;

13)It can realize two groups of storage battery independent charging and discharging management by adopting a set of monitoring system, two groups of storage battery, two groups of charging device and bus segment.

Note: Accident signal or warning signal alarm function and inverter power supply and DC conversion module can be added according to user requirements for DC/AC and DC/DC conversion. See the system configuration module description for specific function operation.

GZDW

DC screen (vertical one side screen)

LUGAO



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

Overview

This system is suitable for 10KV user stations, 35KV/110KV substations, power plants, industrial and mining enterprises, electrified railways, and high-rise buildings. It can be used as an operation and control power source for high-voltage switches, relay protection, and automatic devices.

Model and meaning

GZDW - □ / □

- Rated output voltage battery capacity (Ah),
- Dual battery pack x2 DC screen (cabinet) for power system
- Liugao Electric Power Group Co., Ltd

System Features

- The main monitoring adopts Chinese LCD touch screen operation
- The monitoring system adopts a modular building block structure, multi CPU distributed control, and is connected internally through RS485 bus.
- Configurable battery inspection, insulation line selection, and switch quantity detection units.
- Two UT22005-3 or UT11010-3 rectifier modules from our company can be optionally configured to form the system, with flexible combinations.
- Supports all wiring schemes (including three chargers, dual battery packs, and busbar segmentation).

It can support insulation branch detection for two sections of busbars, with a maximum of 120 circuits per section.

- The main monitoring system provides RS232/RS485 and TCP/IP interfaces (optional), with built-in communication protocols such as RTU-MODBUS, CDT, IEC61850, etc., which can be connected to the substation automation system

System technical parameters

- Communication input: AC380V ± 15%, frequency 50Hz ± 10%
- Output voltage: 180V-286V can be set arbitrarily (220V system), 90V-143V can be set arbitrarily (110V system)
- Output current: 2A-40A (220V system), 20A-80A (110V system)

Battery capacity: DC systems with a capacity of 250AH or less

- Rectification module: Our company's 10A and above rectification module
- Current limit: 10% -110% can be set arbitrarily
- @Work efficiency:>94%
- Voltage stabilization accuracy:<0.5%
- Ripple factor:<0.5%
- Stable current accuracy:<0.5%
- @Insulation resistance:>10MQ
- Voltage resistance: 2KVAC, no flashover or breakdown for one minute
- Battery charging management: automatic
- Battery temperature compensation: Users can set it
- Human computer interface: 320x240 dot matrix LCD Chinese character display, touch screen operation
- Communication interface: Supports RS232 and RS485 communication modes, providing three communication protocol options: RTU, CDT, and MODBUS.
- Cabinet dimensions: (height x width x depth) mm=2260x800x600 or 236x800x600 Color: optional.
- System wiring scheme: All wiring schemes.

GZDW

AC integrated power supply screen



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

Overview

The LG-GZDW intelligent AC/DC integrated power supply is a luxurious AC/DC power supply system designed specifically for power integration management users. The system can be composed of AC power system, DC power system, communication power system, UPS power system, central signal system, etc. The system is designed for unified integration according to user requirements, achieving power security, networking, and intelligence through network communication, design optimization, and system linkage methods, and realizing one-stop service engineering for all power sources. Suitable for power plants, hydropower stations, various substations, as an AC/DC uninterruptible power supply for all power automation systems, communication systems, remote execution systems, high-voltage circuit breakers, relay protection, automatic devices, signal devices, etc.

Application field

The integrated AC/DC power supply system is suitable for substations, power plants, industrial and mining enterprises, electrified railways, and high-rise buildings with different voltage levels. It serves as the operating and control power supply for power automation systems, communication systems, DC systems, high-voltage switches, relay protection, automatic devices, and emergency lighting. The system adopts an integrated design, which unifies the design, monitoring, production, debugging, and service of AC power supply system, DC power supply system, power UPS power supply system, and communication power supply system. Through network communication, design optimization, system linkage, and intelligent equipment file management, it realizes the safe and intelligent design of station power supply, maximizes the turnkey project of station power supply and customer benefits, and is particularly suitable for unmanned operation needs.

System Features

- Provide 48V power supply to the equipment, realizing the integration of substation power supply
- Adopting a 10 inch/7-inch color touch screen and a circuit block diagram display mode, the system is intuitive, easy to use, and user-friendly. It centralizes the DC screen with UPS and communication power batteries, bringing convenience to battery maintenance and upkeep
- Wide voltage input range and strong adaptability to the power grid
- Adopting high-frequency switching power supply technology, modular design, and N+1 hot backup
- The charging module can be plugged in and out with power, making maintenance convenient and fast
- Adopting autonomous current balancing technology, the imbalance of current balancing is ⩽ ± 3%
- The charging module adopts frequency conversion natural resonance soft switching technology, with an efficiency of>96%
- The monitoring system adopts a modular structure, and all communication between monitoring units is electrically isolated, which improves the reliability of the monitoring system. It has automatic battery management and automatic temperature compensation functions, as well as intelligent battery management
- Equipped with RS232/RS485 communication interface and multiple built-in communication protocols, it is more convenient to communicate with remote monitoring systems to achieve the "four remote" function and achieve unmanned operation

applied value

Realize power networking, intelligence, and a higher degree of integration. Realize monitoring of the AC and DC systems, inverter power systems, and communication of the entire power station on a single platform, solve the compatibility issues of communication protocols provided by different suppliers for independent power sources, and improve the degree of system networking and intelligence.

A、 The intelligent devices of each subsystem are connected to the integrated monitor through the communication network. The integrated monitor has one communication port and one protocol connected to the integrated automation/scheduling system; 8. It is possible to view the power consumption, switch status, event information, etc. of each subsystem in real-time from one location, and modify system parameters, operation mode, and remote control switches to achieve the "four remote" function of station power supply;

C、 A unified information sharing platform can improve the comprehensive automation application level of power supply, and carry out deep level development and application such as power supply coordination and linkage, status maintenance, etc. Power supply is safer and more reliable

Both primary and secondary equipment use mature and reliable technology, and there are no technical risks involved. Through integrated design, it can effectively avoid safety hazards in the power supply. A、 The integrated design of batteries avoids the problems of inaccurate maintenance and failure to detect damage between UPS batteries and communication power batteries in a timely manner;

B、 Can conduct comprehensive analysis of power failures and promptly identify potential issues;

C、 It can achieve unified handling of common hidden dangers in power supply, such as unified lightning protection configuration, unified waveform optimization processing, etc. Improve power management level

-The integrated power supply facilitates centralized management of the entire power supply system, providing an overall level of power management. A group of maintenance personnel simultaneously manage and maintain the power supply of the entire station, facilitating the unified allocation of human resources; Include communication power supplies, UPS, etc. in the inspection scope of substations to facilitate comprehensive analysis of information and timely detection of potential accidents. @Reduce TCO

Providing the design, production, installation, and service of all power supplies by a single manufacturer can solve all station power supply problems in one package, reducing procurement, coordination, and communication costs, and reducing product lifecycle costs by more than 30%.

JP

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



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

Overview

JP series outdoor integrated power distribution box is a comprehensive power distribution device with the functions of metering, outgoing and reactive power compensation. It has the functions of short circuit, overload, over-voltage, leakage protection and so on,The utility model has the advantages of beautiful appearance, economy and practicability, and is installed on the pole of an outdoor column and transformer, and is a new generation of ideal distribution product for urban and rural power grid transformation.

Model and meaning

JP - □ / □

- Main circuit program number
- Transformer capacity
- Integrated distribution box

Use environmental conditions

1.Environmental temperature: -25 degrees, +40 degrees;
2.Air relative humidity: daily average value is not greater than 90%, the average monthly value is not greater than 90%;
3.Elevation: no more than 3000m;
4.Installed in the absence of severe shock and shock, non corrosive gas sites.

Structural features

The structure of the case is discrete and horizontal. The shell adopts 2mm high quality non pound steel plate. It is made of multi fold flanging (or stainless steel double sandwich plate with honeycomb structure). It has flame retardance, environmental protection, heat insulation and anti condensation Performance) adopt special stainless steel welding technology, the whole strength of the box is high, the surface is bright and clean, such as the mirror, without leaving the trace of welding seam; the internal installation of beam (plate) is hot-dip galvanized process, to ensure that twenty years without corrosion; The front and back door of the box body is convenient for the user to operate and examine and repair. The door is surrounded by a high elasticity aging resistant sealing strip, and each door is provided with two door locks of light and shade, and the transparent lock is provided with an anti blocking and rust proof rainproof cover; the measuring chamber is fully enclosed closed with a sealing device; the side of the box is equipped with cable lines into the proof of foreign body wear tube, bottom ventilation holes and the cable outlet hole is arranged on the top of a ventilation channel and screen, waterproof, dust-proof, anti rust, anti foreign body function, protection level: IP54.

The main technical parameters

Name	Company	parameter
Transformer capacity	KVA	30-400
Rated working voltage	V	AC400
Auxiliary circuit operating voltage	V	AC220，AC380
Rated frequency	Hz	50
Rated current	A	＜630
Rated leakage current	mA	30~300 Adjustable
Protection level		IP54

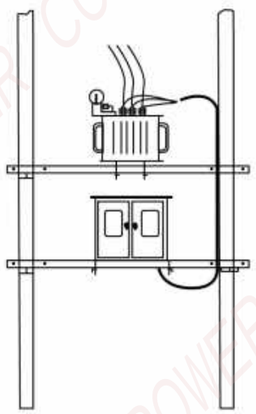
- " " For isolation switch, the model can be selected HD11F series;
- " " For the knife melting switch, models available HR5, HR6 and other series;
- " " For circuit breakers, models are available in DZ20, CM1, NS, DZ47, etc.
- " " For the AC contactor, the model can choose CJ20, B series, CJX2, CJ19 switching capacitor series;
- " " Zero-sequence transformer and leakage relay, the model is optional JD, LLJ series;
- " " For current transformers, models are available in LMZ1-0.5, LMK-0.66 series;
- " " For lightning arresters, models are available in FYS, Y3W, etc.
- " " For the capacitor, the model can be selected BSMJ, BCMJ series;
- " k " For automatic compensation controller, the model can be selected JKL, JKG series



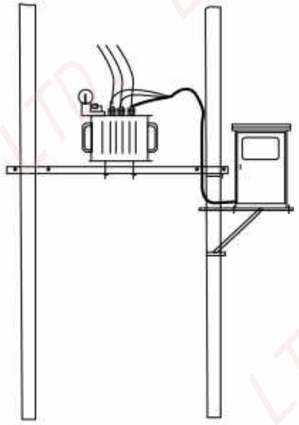


Compensation circuit number 1-4 back optional, each capacity is 3~20Kvar optional;
Another: According to user needs, optional temperature and humidity control device

The main technical parameters

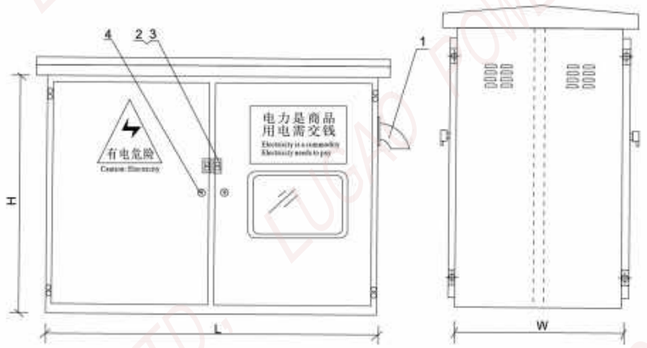


Double post installation



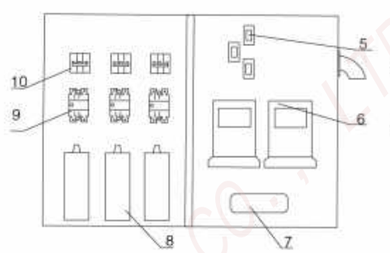
Single post installation

Box structure diagram

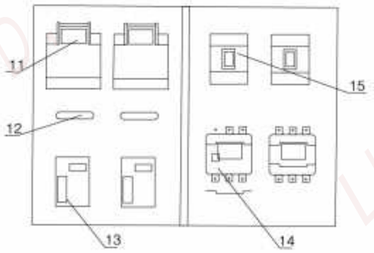


1、the incoming cable wear tube
2、door locks (open lock)
3、door lock rain box
4、the door lock (muffled lock)
5、current transformer
6、the meter
7、junction box
8、Capacitors
9、switch capacitor contactor
10、miniature circuit breaker
11、isolation switch
12、zero sequence transformer
13、leakage relay
14、Outlet AC contactor
15、outgoing air switch

Figure 1: Schematic diagram of the outdoor box (horizontal)

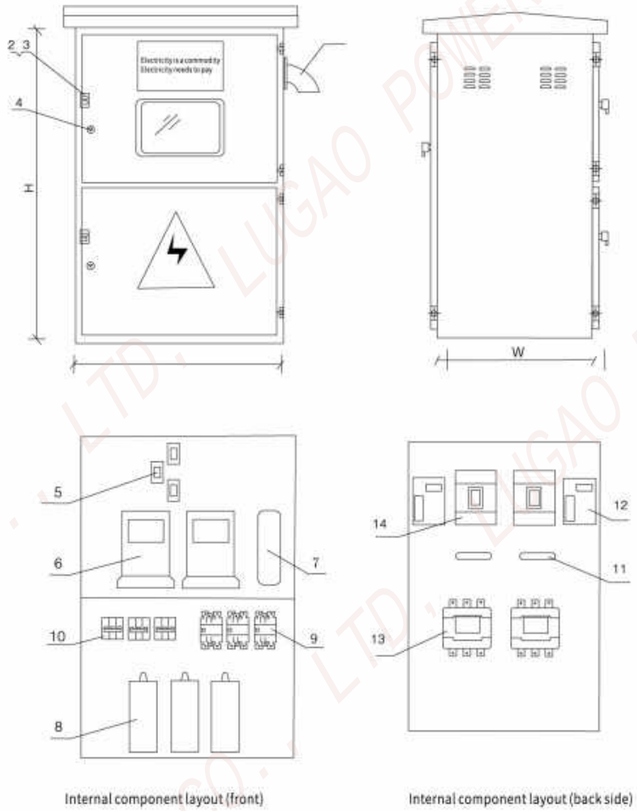


Internal component layout (front)



Internal component layout (back side)

1、the incoming cable wear tube
2、door locks (open lock)
3、door lock rain box
4、the door lock (muffled lock)
5、current transformer
6、the meter
7、junction box
8、Capacitors
9、switch capacitor contactor
10、miniature circuit breaker
11、isolation switch
12、zero sequence transformer
13、leakage relay
14、Outlet AC contactor
15、outgoing air switch



Internal component layout (front)

Internal component layout (back side)

Figure 2: Schematic diagram of the outdoor box (vertical)

1.The incoming cable wear tube
2.Door locks(open lock)
3. Door lock rain box
4. The door lock(muffled lock)
5. Current transformer
6. The meter
7. Junction box
8. Capacitors
9. Switch capacitor contactor
10. Miniature circuit breaker
11. Zero sequence transformer
12. Leakage relay
13. Outlet AC contactor
14. Outgoing air switch

Body size

Overall dimension of bedroom cabinet

Transformer capacity	Program number	L	W	H
30-100kVA	01、06	800	450	700
30-250kVA	02、04、07、09	900	500	700
100~400kVA	03、05、08、10	1100	600	800

Shape dimension of vertical box

Transformer capacity	Program number	L	W	H
30-100kVA	01,06	600	450	1000
30-250kVA	02,04,07,09	700	500	1000
100~400kVA	03,05,08,10	800	600	1100

*above dimensions are for reference only

XL
power distribution cabinet



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

Overview

XL type low-voltage power distribution cabinet is suitable for power distribution in three-phase four wire or three-phase five wire systems with AC voltage of 500 volts or below in power plants and industrial and mining enterprises. The XL type low-voltage power distribution box is an indoor device installed against the wall and requires maintenance in front of the screen.

Model Meaning

X L - □

- Scheme number
- power
- control box

structure characteristics

The XL type low-voltage power distribution cabinet is enclosed, with a shell made of bent steel plates. The knife switch operating handle is installed on the upper right column in front of the box and can be used to switch power sources. There is a voltmeter installed in front of the distribution box to indicate the voltage of the busbar. There is a door in front of the distribution box. When the door is opened, all equipment inside the distribution box is exposed for easy maintenance and repair. This distribution box adopts domestically designed components, which have the characteristics of compact structure, easy maintenance, and flexible combination of circuit schemes. In addition to air circuit breakers and fuses for short-circuit protection, the distribution box is also equipped with contactors and thermal relays. The front door of the box can be equipped with operation buttons and indicator lights.

working conditions

◇ Environmental temperature: -50 ℃ ~+40 ℃ , and the average temperature within 24 hours does not exceed+36 ℃ ;
◇ Altitude: not exceeding 2000m;
◇ Relative humidity: not exceeding 50% when the surrounding air humidity is+40 ℃ ;
◇ Under lower humidity conditions, there can be higher relative humidity (such as 90% at+20 ℃), allowing for moderate frost formation due to temperature changes;
◇ The inclination angle between the equipment and the vertical plane should not exceed 5 ° during installation, and the equipment should be installed in a place without severe vibration, impact, and corrosion.

Use, maintenance, and overhaul

After installation or maintenance, the power distribution box must undergo the following inspections and tests before being put into operation (the inspections and tests after maintenance depend on the quality of the maintenance).

◇ Check whether the electrical equipment and secondary wiring installed inside the power distribution cabinet meet the requirements of the drawings.

◇ Check if the knife switch and air switch used for operation are flexible and free of any jamming or rolling phenomenon.

◇ Check whether the contact of the installed electrical equipment is good and meets the requirements for its own use.

◇ Check whether there are any other foreign objects inside the power distribution cabinet and whether the solid screws of each part are loose.

DTU-900

Distribution automation station terminal



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

Overview

The DTU-900 distribution automation terminal is a new product developed for the increasingly widespread use of ring main units, switch stations, and other places. It adopts a new high-voltage switch control device that combines high-speed sampling chips and 32-bit high-speed control chips, which can quickly and stably monitor high-voltage switches. It integrates functions such as protection, measurement, control, monitoring, communication, and motion, and has the characteristics of high integration, flexible configuration, and user-friendly interface. Widely used in radiation power supply and ring network power supply systems, it can help the system identify transient and permanent faults in the line, automatically eliminate the impact of transient faults on the line, isolate permanent fault sections, avoid long-term large-scale power outages, automatically restore power supply to non fault sections of the grid, and thus achieve distribution network automation economically and practically.

Model Meaning

The DTU-900 three remote distribution automation terminal device uses a high-performance 32-bit microprocessor as the hardware development platform and efficient embedded real-time operation as the software development platform. It has the following distinct technical characteristics:

◆ Unified core public platform

◇ Platform: A unified embedded software and hardware combination platform (with a self-developed 32-bit motherboard for the CPU, a hardware platform with a clock speed of up to 240MHz and large information processing capacity, and a software platform for embedded multitasking real-time operating systems), supporting high-speed Ethernet bus and CAN bus, with large interface capacity.

◇ Storage: Large capacity FALSH and RAM can record the sequence of events such as location, accident remote signaling, displacement, SOE, and extreme value data for local storage, with a time of not less than one month. It supports historical data supplementation and uploading.

◇ Diversified configuration of communication methods and protocols

◇ It has 4 RS232/RS485 interfaces, baud rates of 300-115200bps, 2 Ethernet ports, and supports multiple protocols such as 101 and 104.

◇ Hardware configuration: Independent communication management module, hardware configuration supports primary and backup swapping, redundant design.

◇ Software configuration: Supports multiple communication methods and protocols, and can communicate with multiple master stations of different levels simultaneously.

◆ Flexible configuration of remote signaling, remote control, and telemetry

◇ Truly modular design, the three remote function modules are standardized and universal, and any damage to any module does not affect the operation of other modules and systems.

◇ The number of three remote points is within the maximum capacity range of the measurement and control unit, and the three remote function modules can be expanded as needed. The number of three remote points exceeds the maximum capacity range of the measurement and control unit, and functional modules can be expanded through the expansion bus.

Intelligent power management

Real time monitoring of power supply, AC power loss and battery undervoltage alarm.

Battery online management, supporting manual, automatic, and remote activation.

◇ Battery charging and discharging protection, automatically cuts off battery power supply when below the discharge cut-off point.

◇ It can provide multiple working power sources for terminals, communication equipment, remote signaling, and remote control, with output short circuit protection. Support the connection of lead-acid batteries and lithium batteries.

◆ Maintenance aspect

Adopting a large LCD Chinese display, menu style interface, keyboard operation, providing a good human-computer interaction environment (optional).

Provide various indicator lights to indicate the operating status.

Provide remote and local maintenance interfaces, allowing operators to perform maintenance locally or remotely from the main station.

◆ Environmental aspect

◇ Suitable for harsh environments, working temperature -40 ℃ ~+70 ℃ , anti magnetic, moisture-proof, and shockproof.

◇ Electromagnetic compatibility can meet the requirements of level 4 or above, and can adapt to strong electromagnetic environments

LGMJ

Low Voltage Distribution Board



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

First level power cabinet



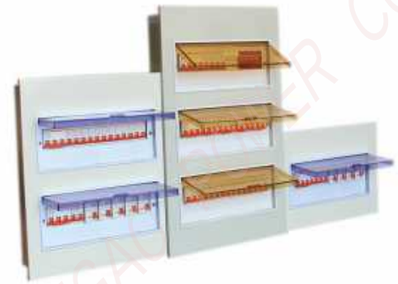
secondary distribution box



Third level distribution box



TYMJ lighting distribution box



Stainless steel electric meter box



TYDBX three-phase six meter electric energy metering box



Three phase four meter electric energy metering box



■ *TYDFW floor standing cable branch box(SMC)*



■ *Wall mounted cable branch box(SMC)*



■ *TYMJ Lighting Box*

■ *TYMJ control box*





JHR-400

Low-voltage cable distribution box

LUGAO



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

Ordinary four branch cable branch box structure diagram

JHR-400 low-voltage cable distribution box is a kind of electric cable to other equipment (non-power consumption equipment) to allocate power to install the outdoor installation of the closed sets of equipment, ground-mounted, column mounted, hanging and embedded Into the type of 4, it is used for public three-phase system. Products meet GB7251.5 and IEC439-1 (1992) and other standards.

Model and meaning

JHR - □ □

- Rated current
- D means no open plane
- I represents a switch
- Name

Use environmental conditions

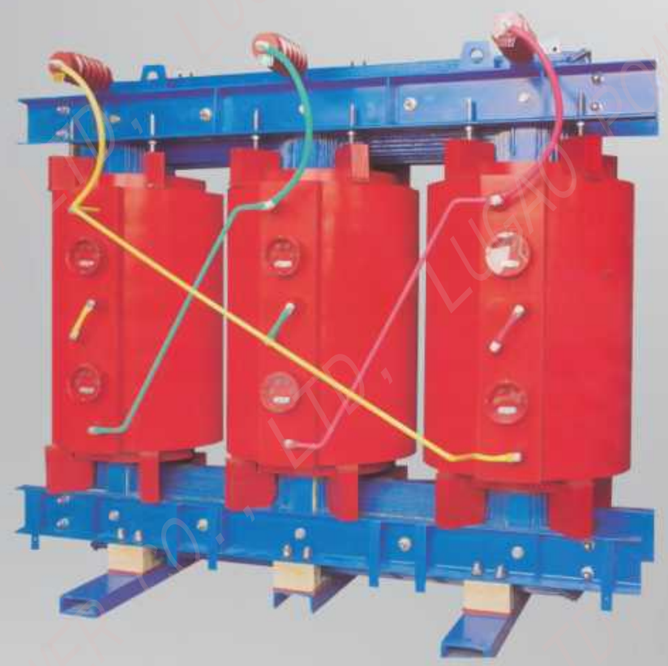
1.The cabinet selection of 1.5mm thick cold-rolled steel or 1.2mm thick stainless steel production, the surface of the acid sprayed spray treatment, beautiful appearance.
2.The left and right sides of the box into the line, the following outlet hole, easy access.
3.The cabinet has a main grounding point, easy to connect with the ground.
4.Box, baffle and other insulating parts with high heat and spark resistance, built-in or exterior parts with corrosion resistance and aging resistance.
5.The appearance of the protection level IP34D, when the cable is connected, the minimum protection level IP23C.

The main technical parameters

Serial number	project	parameter
1	Rated insulation working voltage	400
2	Rated operating voltage	AC380、AC220
3	Maximum rated current	100A
4	Short time withstand current	6kA
5	Protection class	IP30

SC(B)10/20/35KV

Epoxy resin cast dry type transformer



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

Overview

This product is widely used in areas where it is particularly suitable for use in locations where fire protection is high, such as mines, oil fields, subways, power plants, schools, hospitals, commercial centers, high-rise buildings and all Within the configuration system.

Model and meaning

S C (B) 11 □ / 10/20/35

- 10/20/35 — High voltage side voltage level(kV)
- □ — Rated capacity(kVA)
- 11 — Design Number
- (B) — Low foil foil
- C — Forming solid casting
- S — Three phases

Working conditions

installation height: no more than 3000m above sea level;
power supply voltage waveform: like sine wave;
multi-phase power supply voltage symmetry: multi-phase transformer connected to the power supply voltage should be symmetrical.
ambient temperature: maximum temperature +40C; the highest daily average temperature of +30C; the highest annual average temperature of + 20C; minimum temperature -25C(for indoor transformers).

Structural features

Core

The core is made of high-quality grain-oriented cold-rolled silicon steel sheet, 45。oblique step into the seam, the core with a special square tubepull plate structure, the core column with insulating tape banding, iron core surface with special resin coating to moisture and rust, effectively reducing the no-loadloss, no-load current and core noise.

Safe, flame retardant, non-polluting, can be installed directly in the load center.

Maintenance-free, easy to install, low overall operating costs.

Moisture-proof performance, can be 100% humidity normal operation, after the outage can be put into operation without pre-drying.

Low loss, low partial discharge, low noise, strong heat dissipation, equipped with perfect temperature protection control system, to provide reliable protection for the safe operation of the transformer.

High reliability. According to the operation of the product has been put into operation research, product reliability index has reached the international advanced level.

Foil coil

Low-voltage winding with the entire copper foil, together with the F-class turn insulation in a dedicated low-pressure foil winding around the system. Foil-type coil is a good solution to the low-voltage, high current coil wire around the product short-circuit stress, Balance, poor heat dissipation, there is a spiral angle wound,artificial welding quality of the outstanding problems. At the same time my company winding end with resin potting, curing forming, moisture pollution.

Temperature control device

Transformer using BWDK series of signal thermometer, temperature components buried in the upper half of the low-voltage coil, can automatically detect and tour the three-phase coil of the respective working humidity. And has over-temperature alarm and trip function.

Voltage conversion

Connecting pieces in different gears, can achieve 10kV and 20kV voltage conversion, respectively, for 10kV and 20kV system voltage requirements.

The main technical parameters

Rated Capacity (kVA)	High pressure combination			Coupling group standard number	Loss(kW)		No load current(%)	Short circuit impedance (%)	Body weight(kg)	Weight with shell(kg)
	High pressure (kV)	High voltage tap range%	Low pressure (kV)		Load	No load				
50	20,22 24/10 11,12	±5% ±2×2.5%	0.4	Dyn11	1.23	0.3	2.3	6	490	580
100					1.98	0.47	1.9		570	680
160					2.46	0.58	1.7		640	750
200					2.93	0.64	1.6		775	890
250					3.4	0.73	1.5		895	1030
315					4.06	0.84	1.4		1100	1250
400					4.82	1.0	1.3		1200	1350
500					5.76	1.17	1.3		1460	1610
630					6.8	1.32	1.2		1680	1840
800					8.22	1.52	1.1		1800	1980
1000					9.73	1.79	1.0		2160	2310
1250					11.48	2.06	1.0		2520	2720
1600					13.79	2.41	0.9		3075	3300
2000					16.29	2.8	0.9		3670	3900
2500					19.27	3.34	0.8		4420	4670
3150									5310	5580

Outline and Installation Dimensions

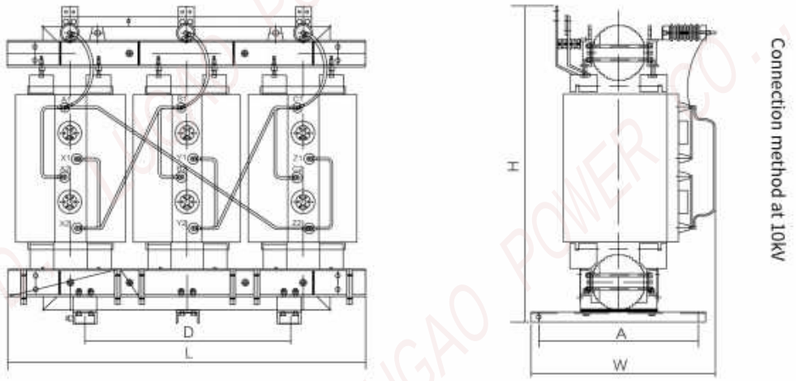


Figure 1 SC(B)1 1-30~2500/10kv Transformer Outline and Installation Dimensions

Rated Capacity(kVA)	Shape and installation dimensions(mm)				
	L	W	H	C1	C2
50	1180	750	1000	660	660
100	1210	780	1050	660	660
160	1260	800	1050	660	660
200	1310	850	1100	660	660
250	1370	890	1270	660	660
315	1420	890	1330	660	660
400	1450	900	1380	660	820
500	1470	900	1480	660	820
630	1545	950	1595	820	820
800	1600	980	1650	820	820
1000	1620	1050	1760	820	820
1250	1760	1050	1800	820	820
1600	1800	1070	1850	820	820
2000	1850	1100	1650	820	820
2500	1900	1160	1700	820	820
3150	1980	1240	1850	820	820

S10 series 11kv class distribution transformer

LUGAO



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

Overview

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

S10 series 11kV single phase pole - mounted distribution transformer

Rating (kVA)	Voltage group		Vector group	Impedance voltage	Loss		No-load current (%)	Weight(kg)			(L×B×H)(mm) Outer dimension	Gauge vertical/ horizontal
	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

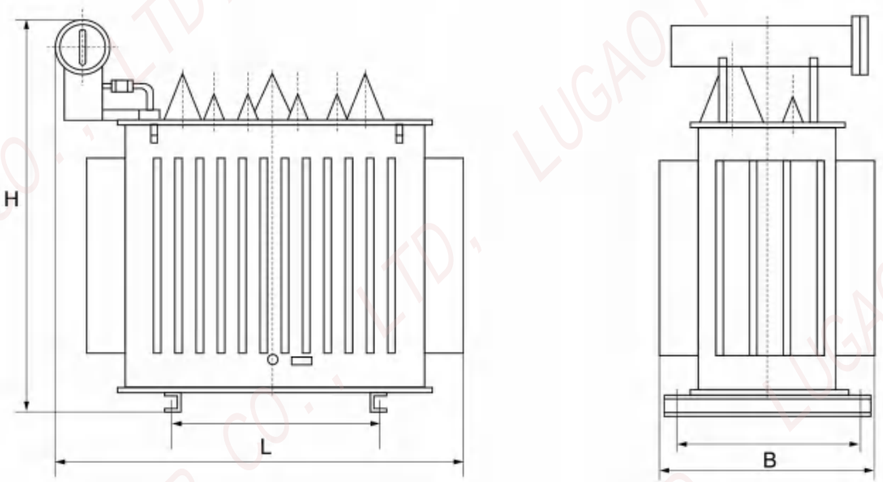
Standard

GB1094.1-2013; GB1094.2- -2013; GB1094.3- -2013; GB 1094.5- -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. Transformers are more efficient by reduced no-load losses and Reduced load losses

S10 series three phase distribution transformer



S11 series 15/20kv class distribution transformer

LUGAO



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

Overview

15/20kV Distribution Transformers refer 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 20kV 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.

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
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9. Robust construction having excellent short circuit and thermal withstand capabilities
10. Transformers are more efficient by Reduced no-load losses and Reduced load losses

Transformer normal service conditions

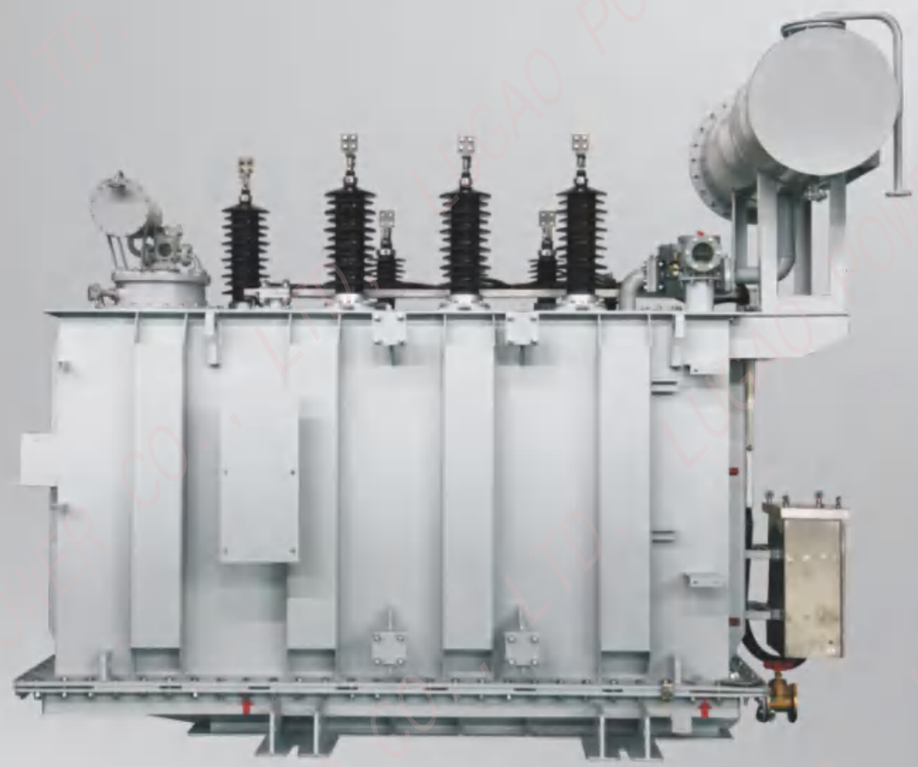
1. The height above the sea level is below 1000m;
2. Ambient temperature;
3. Highest air temperature +40℃ ;
4. Highest daily average air temperature+30℃ ;
5. Highest annual average air temperature +20℃ ;
6. Lowest outdoor air temperature -25℃ ;

S11 series 1 5/20kV single phase pole-mounted distribution transformer

Rating (kVA)	Voltage group		Vector group	Impedance voltage	Loss		No-load current (%)	Weight(kg)			(L×B×H)(mm) Outer dimension	Gauge vertical/ horizontal
	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

S11 series 33kV class oltc power transformer



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

Overview

S11 series 15/20kV Distribution Transformers refer 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 20kV 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.

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. 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 +40C° ;
4. Highest daily average air temperature+30C° ;
5. Highest annual average air temperature +20C° ;
6. Lowest outdoor air temperature -25C° ;

S11 series 33kV single phase pole-mounted distribution transformer

Rating (kVA)	Voltage group		Vector group	Impedance voltage	Loss		No-load current (%)	Weight(kg)			(L×B×H)(mm) Outer dimension	Gauge vertical/ horizontal
	High-Voltage	Low-voltage			No-load	load		Machine weight	Oil weight	Gross weight		
800	38.5 36 35 34.5 33	11 10 6	Yd11	6.5	1.3	10.4	1.0	1350	700	2780	2790×1220×2150	820/820
1000					1.52	12.8	1.0	1575	775	3290	2830×1240×2250	820/820
1250					1.86	15.4	0.9	1810	880	3845	2870×1310×2370	820/820
1600					2.24	18.43	0.8	2190	960	4295	2900×1510×2420	820/820
2000					2.88	20.25	0.7	2460	1090	4890	2920×1750×2450	820/820
2500					3.4	21.73	0.6	3010	1205	5660	2980×1840×2530	1070/1070
3150				7.0	4.04	26.01	0.56	3785	1500	7600	3150×2220×2620	1070/1070
4000					4.84	30.69	0.56	4690	1790	8500	3270×2390×2670	1070/1070
5000					5.8	36.00	0.48	5570	2015	9790	3470×2450×2750	1070/1070
6300					7.04	38.7	0.48	7380	2460	12620	3700×2580×2950	1475/1475
8000			Yd11	4.5	9.84	42.75	0.42	8870	2650	14100	3850×2680×3150	1475/1475
10000					11.6	50.58	0.42	10020	2930	16500	3920×2720×3230	1475/1475
12500				8.0	13.66	59.85	0.4	12880	3710	19780	4010×2950×3410	1475/1475
16000					16.46	74.02	0.4	16120	4280	23950	4120×3180×3570	1475/1475
20000					19.46	87.14	0.4	18580	5230	29600	4330×3560×3990	1475/1475

Note: It can supply voltage regulating range of ±3×2.5% or ±2×2.5% for high-voltage on-load regulation transformer

YB □ -12 (PV)

Photovoltaic Special Box Transformer Substation

LUGAO



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

Overview

Prefabricated intelligent substations, also known as prefabricated cabins, are aimed at further deepening the technology of intelligent substations, unifying construction standards, and improving the quality, safety, and efficiency of engineering construction. State Grid Corporation of China has launched the construction of standard distribution intelligent substations, proposing the technical principles of "standardized design, factory processing and mechanized construction, and prefabricated construction". This is a deepening of standardized construction, which can not only effectively shorten the construction period, improve engineering quality, reduce construction cycle costs, but also be more conducive to environmental protection, improve the efficiency of intelligent substations, enhance the capacity of power grid construction, and lead the construction of substations towards a path of high technological content, low resource consumption, less environmental pollution, and refined construction.

Electrical technical parameters

The fully prefabricated modular substation has changed the traditional electrical system layout, civil engineering design, and construction mode of substations, and is constructed through two stages: factory production prefabrication and on-site installation.

Its standardized design, modular combination, industrial production, and intensive construction make the construction of substations a road with high content, less environmental pollution, and refined construction.

1. In terms of civil engineering: the traditional layout of the monthly electrical system has been improved, implementing the principles of building energy conservation, material conservation, water conservation, and land conservation, striving to make the building structure lightweight, utilizing on-site rapid splicing technology, and transforming the construction process to shorten the construction period.

2. Electrical aspects: It is necessary to develop six standard systems for substation general design, component processing detailed drawings, factory production processes, on-site splicing processes, building cost quotas, and prefabricated construction control.

3. The construction mode of fully prefabricated and assembled substations requires modern prefabricated and steel component factories to provide support, redefining the traditional mode. Prefabricated cabins are a new technology for the development of power facilities in China, and the prefabricated cabin bodies with metal welded structures (container prefabricated cabins and transformers) have become an important component of power development.

Electrical technical parameters

project	Configuration Details	describe	notes
chassis assembly	beam	4mm; (quantity depends on the length of the box)	SPA-H material
	Edge beam/longitudinal beam	16/18/20 # channel steel or 160 * 80 * 4 rectangular pipe	Q235B material
	base	3mm/5mm flat plate	Q235B material
Front wall assembly	front wall pillar	6mm bent piece (structure identical to container column)	SPA-H material
	top beam	Rectangular tube 60 * 3 (same as container top beam)	Q235B material
	Bottom beam	16 # channel steel	Q235B material
	Front wall panel	1.6/2mm， Eight character board (same as the front wall panel of the container)	SPA-H material
Rear panel assembly	Rear wall pillar	6mm bent piece, (with the same structure as the rear column of the container)	SPA-H material
	Rear wall top beam	Rectangular tube or equivalent structural component	Q235B material
	Rear wall bottom beam	16 # channel steel or equivalent structural components	Q235B material
Container door panel assembly	Rear door frame	Frame 100 * 50 rectangular tube; Bend 3mm up and down	Q235B material
	Rear door panel	2mm， 36 (3 wave board)	SPA-H material
	Rear door seal	EPDM waterproof sealing strip	
	door lock	Lock rod, galvanized container lock rod	
Left/Right Assembly	Left roof beam	Rectangular tube 60/80 * 3 (same as container top beam)	Q235B material
	Side plate	Container side corrugated board 1.6mm, 36 (5 corrugated boards)	SPA-H material
Box top assembly	Box top plate	Container roof, 2mm, 5 waves	SPA-H material
		Rectangular tube 60 * 3	Q235B material

YB □ 33kV

Environmentally-friendly modular substation

LUGAO



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

Overview

Combined type of transformer substation is a kind of complete set product integrating voltage switch equipment and transformer with LV distribution equipment. It is usually applied to civic architectures, residential districts, mid- size and small factories , mine and oil fields used as transformation and distribution equipment with characteristic of strong completeness and compact structure, high reliability,low on site workload, short installation period, immovability etc.In addition, its color and exterior can be changed appropriately to adapt to the surroundings and friendly to the environment, it really the idea of success of current urban and rural civil engineering transformers substation. and also is new type complete set equipment for urban network construction and reformation.

Model and meaning

YB □ □ - □ 33 / □

- Rated voltage at LV side
- Rated voltage at HV side
- Capacity of transformer
- Design number
- Company code
- Transformer substation

Use environmental conditions

1. Altitude: ⩽ 3000m;
2. Ambient temperature: +40C-25C :
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.

Structural features

1. This transformer is made up of switch compartment, low switch compartment and relay protection compartment and transformer compartment. Enclosures of HV, LV switch compartment and relay protection compartment can be made of aluminum alloy plate, steel plate of composite plate. Aluminum alloy plate is an anodize oxidation treated to strengthen its corrosion stability .Steek 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 compartment is arranged with safe guard protecting net but not enclosure, which not only guarantees beer thermal diffusivity but also is able to insure person and equip ment against accident.
2. HV switch compartment: The HV switch compartment can be mounted with KYN61-33 switchgear or 33KV load switch Aerial cable types available for mounting 33KV inlet wire.
3. LV switch compartment

a. when it is 15Kv at low voltage side, the LV switch compartment can be mounted with XGN2- 415.KZNI-15 switchgear, HXGNII-10F. HXGN26-(10F)Ring main unit

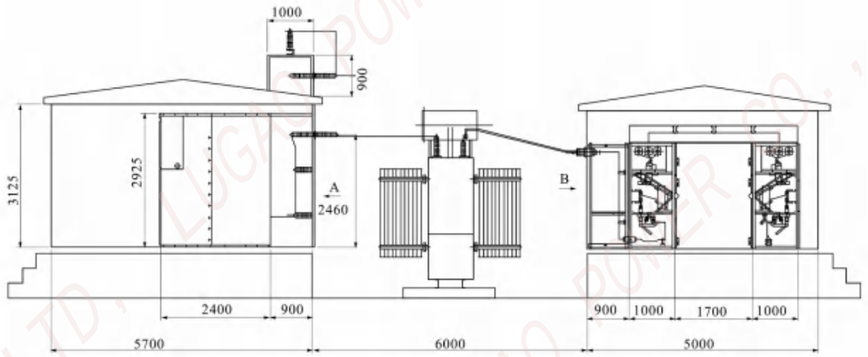
b.when it is 0.4 kv at LV switch compartment(no preparation of LV switch gear in consideration of space saving) can be series mounted with DW 1sT series, ME series and F frame type circuit breaker as well as DZ20 series, CM series, H series and S series molded case air circuit breaker.

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

Note: This transformer substation can adopt general relay protection. also microcomputer bused integrated automatic control system is available on request.

5 Refer to the plan layout and vertical plane layout of transformer of 33KV.

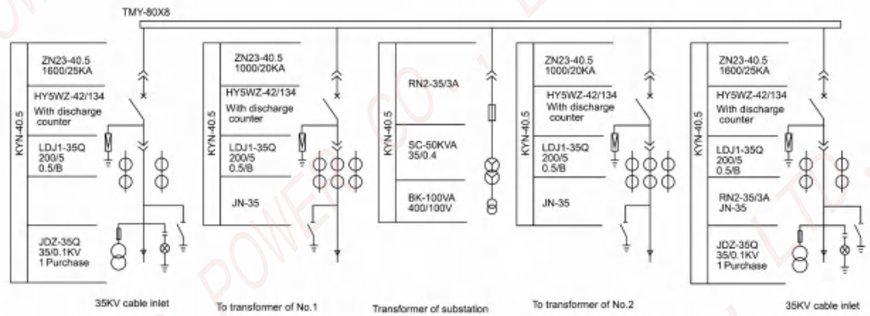
Plane, elevation layout



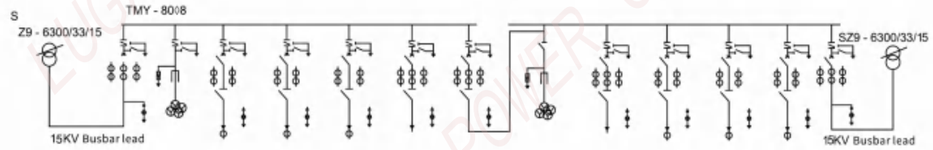
Technical data

Model	Raled voltage	Rated capacity	(kV/kV) Change
Sz7	33/36	400-20000	33/15, 33/11,33/0.4
Sz9	33/36	400-20000	33/15, 33/11,33/0.4

Typical one-time wiring diagram



33kV side one-line diagram



Application	1#incoming line	1#PT	1# incoming line	2# out of line	3# Standby	# capacitance	Breaking	2#PT	2# capacitance	4# Outgoing line	5# Outgoing line	6#spare	2# Outgoing line
Cabinet type	XCN66	XCN66	XGN66	XGN66	XGN66	XGN66	XGN66	XGN66	XGN66	XGN66	XGN66	XGN66	XGN66
Isolating switch GN30D-10, GN19-10C	1000A	630A	630A 630A	630A 630A	630A 630A	630A 630A	1000A 1000A	630A	630A630A	630A 630A	630A 630A	630A 630A	1000A
VS1-12Breakr	1250/31.5 kA-1		630/20kA 1	630/20 kA1	630/20 kA1	630/20 kA 1	1250/ 31.5kA 1		630/20kA 1	630/20 kA 1	630/20 kA1	630/20 kA 1	1250/31.5 kA 1
LZZBJ-10 Current transformer	400/5,200/ 5,0.2level		400/5, 200/5 0.2level	300/5, 100/5 0.2level	300/5, 100/5 0.2level	100/5 0.2 /5level	300/5, 100/5 0.2level		100/5, 0.25level	400/5, 200 0.2level	200/5, 100 0.2level	200/5, 100 0.2level	400/5, 200 0.2level
JDZJ-10 Voltage transformer		$\frac{10}{\sqrt{3}}:\frac{0.1}{\sqrt{3}}:\frac{0.1}{\sqrt{3}}:\frac{0.1}{\sqrt{3}}$						$\frac{10}{\sqrt{3}}:\frac{0.1}{\sqrt{3}}:\frac{0.1}{\sqrt{3}}:\frac{0.1}{\sqrt{3}}$					
RN2-10 Fuse		3	1					3	1				
HY5WZ-12.7/50 Lightning arrester	1	3	1	1	1	1	1	3					
GSN-10 Electrification display			1	1	1	1	1			1	1	1	1
LJ-100Zero sequence transformer				1	1	1	1		1	1	1	1	1
Microcomputer protection device	Be mounled on protcction screen of main transformer									1	1	1	Be mounted on protcction Screen of main transformer

YB □ -24KV(15KV)

Smart/compact box substation

LUGAO



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

Overview

Compact box-type substation of 24kV(15kV) (hereinafter referred to as box-type substation) takes the advantages of foreign box-type substations, employs the new techniques, advanced electric parts and HV/LV automated technology, it meets the requirements of the state grid automation and electric power requirements. It is formed a box or several boxes that are assembled with HV switchgear, distribution transformer, LV switchgear, electric energy metering equipment and power compensation equipment. The intelligent module is installed on its HV and LV side, to reach the requirements of automation in the distribution grid and realize the remote control, remote sensing, remote signaling and remote regulating as well as upper computer system management. This equipment is applicable for the locations such as the urban high-rise buildings, residential houses, industrial and mining enterprises, municipal constructions, roads and street lamps as well as the temporary constructions. It has many advantages such as the strong completeness, short installation period, small floor area, low investment, less maintenance, reliable operation, nice appearance, long service life, in addition, it is easy to harmonize with the surroundings.

Model and meaning

Y B □ 2 - □ - □ / □ □ □

- Enclosure material：J-Metal F-Nonmetal
- Structure type P-Chinese character “品” M-Chinese character”目
- Rated voltage on LV side
- Rated voltage on HV side
- Capacity of transformer
- Design no.
- Z-Intelligent type J-Compact type
- Substation
- Box type

Use environmental conditions

Normal service conditions of outdoor box-type substation

a) The ambient temperature shall not exceed +40 °C，and the average temperature within 24hshall not be more than+35 °C .The min ambient temperature may be -10 degree 5 and -25°C . What’ s more, the sharp change of temperature shall be taken into consideration.

b)The sunshine radiation of 1000W/m2 (At noon on a cloudless day shall be taken into consideration.

c) The altitude shall not be higher than 3,000m.

d) If the ambient air is subject to the pollution of dust, smoke, corrosive gas, steam or salt mist,the pollution class shall not exceed the class II.

e) For class 1, the ice coating thickness shall not exceed 1mm; for class 10, it shall not bethicker than 10mm; and for class 20; it shall not be more than 20mm.

f) The wind speed shall not exceed 34m/s.

g) The condensation and precipitation shall be taken into consideration.

h)The inductive electromagnetic disturbance voltage range shall not be more than 1.6kV in the secondary system .

Special service conditions

If beyond the normal service conditions mentioned in clause 3.1, please contact and negotiatewith the manufacturer.

The main technical parameters

Rated voltage (Ur): On the HV side: 24kV/15kv On the LV side: 0.4kV
Auxiliary circuit: AC110V, 220V and 380V; DC 24V, 110V, 125V
Rated capacity of transformer: 100, 125, 160, 200, 250, 315, 400, 500, 630, 800, 1,000, 1,250, 1 ,600kVA
Rated current (Ir): On the HV side: 400A and 630A On the LV side: Max 2,500A
Rated frequency (fr): 50Hz
Rated short-time withstand current (Ik) :
HV switchgear: 16kA 2s(4s), 20kA 2s(4s)
LV switchgear: 15kA for 315~500kVA
30kA for 630~1,600kVA
Test time: 1s
If the capacity of transformer is less than 3 15kVA, the equipment will be exempted from the test.
International protection of enclosure : Not lower than IP23D

Structural features

1. This design considers the territory, environment and variety of customer demands, it employs the modular structure combined with following types.

According to the HV switch connecting with the power grid: ring net type, terminal type, HV energy metering type, LV energy metering type.

According to the equipment arrangement: Chinese character" ." " type structure and Chinese ".." type structure.

According to the type of built-in transformer: oil- immersed full- seal transformer and dry- type transformer.

According to the type of HV switch: vacuum type load switch and combination unit switch gear, SF6 load switch and combination unit switch, gas-filled switchgear

According to the material of box body (enclosure) : metallic enclosure and non- metallic enclosure

The metallic enclosure and frame are welded with the beam channel and steel I beam, the side wall and top cover is of two-layer assembly, the outer has the hoisting pin and mounting pin, the metallic door has the good earthing line and the under frame and foundation has the connecting earthling conductor. There are doors installed on both sides of transformer, which facilitate the installation and repair of the transformer; and safe and isolating net doors to prevent person entering into electrical isolating area by mistake and guarantee the safety of equipment and human.

2. Good ventilation measures: the structure of box body is of two layers, the top of box is else made of heat - isolation material, which can lower the rise of indoor temperature caused by the sunshine and there is an automatic ventilator mounted at the side door of HV chamber, which can ensure transformer run safely in full load in the high temperature season.

3. The HV switchgear on HV side provided with five-prevention measures and there is an energized reliable lock with the transformer compartment to ensure the human security. The grade Protection of box body can reach IP23D: It has good rain-proof performance.

4. Convenient operation and maintenance

There are some visible marks outside of the box type substation , indicating the HV compartment, through opening the compartment doors, they can be easily operated and repaired, each compartment has the automatic lighting device even the compartment of transformer is used for installing . maintaining and changing the transformer in addition LV compartment is of force connection and for repairing the channels.

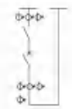
5. Nice appearance and durability

The enclosure is made of AL-plates and color steel sandwich plates, it is given the pre- treatment and plating treatment , besides, it also can be non-metallic enclosure made of a glass fiber and special cement and with the special technology so it has the obvious advantage like the strong plasticity of appearance, corrosion resistance, heat isolation and sound isolation etc. The surface coating is beautiful and durable, with high cohesion and soft color sense.

High-side main circuit scheme

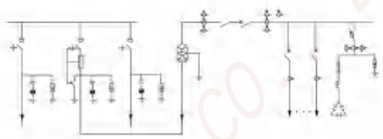
Scheme No.	1	2	3	4	5	6	7
Line diagram							
Purpose	Wire incoming and outgoing	Wire incoming and outgoing	Wire incoming and outgoing	Wire incoming and outgoing	Wire incoming and outgoing	Voltage transformer cabinet	HV metering cabinet

Low-side circuit scheme

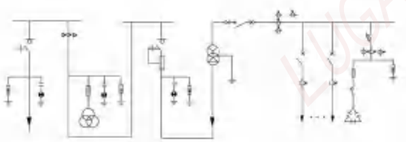
Scheme No.	1	2	3	4	5	6	7
Line diagram							
Purpose	Electrification	Electrification	Electrification	Feeding	Reactive compensation	Reactive compensation	Low-voltage metering

Typical system scenario example reference

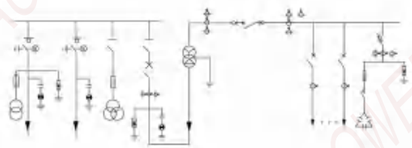
Cable incoming and outgoing; ring net power supply; HV supply and LV metering;manual operation



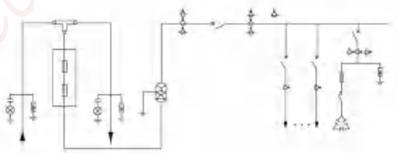
Cable incoming and outgoing; terminal power supply; HV supply and LV metering; manual operation



Cable incoming and outgoing; ring net power supply; HV supply and LV metering;electrical operation



Example of compact type combination scheme



YB-24

Intelligent prefabricated substation



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

Overview

This intelligent integrated transformer substation is a nationalized type American box substation developed by LIUGAO company. As an important power supply unit in the cable distribution network, it is an integrated prefabricated product of high voltage control, protection, power transformation and power distribution, which is 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 one box and divided box with the transformer body. The oil box is of full-sealed structure with oil temperature indicator, oil level gauge, pressure gauge, pressure relief valve and oil drain valve to 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,JONCHN Company promotes plug pull dry type fuse and the fusing of the fuse wire has no effect to the performance of transformer oil. According to the complicated degree of 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

YB □-□/□-□

- (kVA) Rated capacity of transformer
- (kV) Rated voltage of low-voltage side
- (kV) Rated voltage of high-voltage side
- Design serial No.
- This integrated transformer substation

High voltage main circuit common scheme

1. Ambient temperature: maximum +40°C，minimum-30°C ;
2. Altitude: ⩽ 3000m
3. Wind speed: About34m/s (⩽ 700Pa);
4. Humidity: Average daily relative humidity ⩽ 95%
   Average monthly relative humidity ⩽ 90%
5. Shake-proof: Level acceleration ⩽ 0. 4m/s2 ;vertical acceleration ⩽ 0.15m/s2 ;
6. Gradient of installation position: ⩽ 3° .
7. Installing environment: ambient air has not been obviously polluted by corrosive or flammable gas, and there is no strong feeling of shock.
8. Please negotiate with the company when the purchased product is beyond above stipulated conditions.

Product rated parameters

Rated voltage	10kV/0.4kV
Rated voltage of high-voltage side	10kV
Max. voltage of high-voltage side	12kV
Rated voltage of low-voltage side	0.4kV
Rated frequency	50Hz
Thermal stability capacity of high-voltage switchgear	20kA/2S
Rated short-circuit breaking capacity of low-voltage main circuit switch	35kA
Rated short-circuit breaking capacity of low-voltage branch circuitswitch	35kA
Transferred current of high-voltage load switch	＞1500A
Noise level	50dB
Protective grade of case	Not less than IP3X

Insulation level

Rated voltage	10			0.4
	Transformer	Switch to earth and interphase	Switch isolating inter-fracture	
Power frequency withstandvoltage	35	42	48	-2.5
(kV)Peak impulse withstandvalue	75	75	85	

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 anti corrosion 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 rust protection. the box bodies are of the full-sealed theft-proof structure. to assure the operation under the normal ambient air temperature, the temperature of all the electrical equipment can' t exceed the 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 which there are more than 2 fixed connecting terminals connected to the grounding network and on which there are obvious grounding marks. The grounding terminal is the copper bolt, the diameter of which is not less than 12mm. the grounding conductor is made from copper strip, the current density of which is not higher than 200A/mm2 and the cross section of which is not less than 30mm2, and it is guaranteed that there is no overheat and there is no bad effect to the safety of the surrounding objects when the maximum short circuit current passes. the dynamic and thermal stability current that the special grounding conductor endures must be combined with the grounding mode of high voltage power distribution device.

Product rated parameters

For 10kV prefabricated substation performance level of S9,S10, S11 series oil-immersed transformer

No	Rated capacity	Rated voltage		Voltage tapping range	Connection group mark	No-load current		Loss					Impedance voltage	Noise	Temperature rise
		Hig-nvoltage	low-voltage					No-load			On-load				
						S9	S10/ S11	S9	S10	S11	S9	S10/ S11			
1	30	6 6.3 10	0.4 (0.69)	±5 (±2×2.5)	Yyn0 Dyn11	2.2	2.0	130			600		4	55	Oil temperature of top layer 65° coil 65°
2	50					2.0	1.8	170			870				
3	63					1.9	1.5	200			1040				
4	80					1.7	1.2	250			1250				
5	100					1.6	1.1	290			1500				
6	125					1.5	1.0	340	270		1800				
7	160					1.4	1.0	400	310		2200				
8	200					1.4	0.8	480	375		2600				
9	250					1.2	0.8	560	455	400	3050	3000			
10	315					1.1	0.7	670	540	475	3650	3600			
11	400					1.0	0.7	800	650	570	4300	4200			
12	500					1.0	0.6	960	775	680	5100	5000			
13	630					0.9	0.6	1200	920	800	6200	6000	4.5		
14	800					0.8	0.6	1400	1120	980	7500	7400			
15	1000					0.7	0.5	1700	1320	1150	10300	9860			
16	1250					0.6	0.5	1950	1560	1360	12800	12000			
17	1600					0.6	0.5	2400	1880	1640	14500	14000			

a. The high-voltage tapping range can be designed to +2x2.5% according to customer 's requirement.
b. The low voltage of transformer can be designed to 0.69k V according to customer 's requirement.

Product rated parameters

Performance parameter of load switch

Rated current(A)	Rated voltage(KV)	Impulse withstand voltage(KV)	Power frequency withstand voltage (1 min. kV)	Rated short-time withstand current (kA/s)	Short-circuit making current (kA)	Rated peak withstand current (kA)	Number of load operation(kA)	Number of mechanical operation
315	12	75	42	12.5/2	31.5	31.5	100	2000
630	12	75	42	16/4	40	40	100	3000

Schematic diagram of main circuit

Scheme No.	1	2	3	4
System scheme				
FYN-12Charge switch	For terminal use	Ring network power supply	High voltage metering	Dual power supply
	315A/630A	315A/630A	315A/630A	315A/630A

a. The rated values of plug- in type fuse and backup current limiting fuse are subject to transformer's capacity by manufacturer.
b.High-voltage charged indicator or fault indicator can be extra installed for incoming line.
c.High-voltage metering device can be extra installed according to requirement.

DFW10-12

Cable branch box



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

Overview

DFW10- 12 outdoor AC cable branch box is a cable engineering equipment widely used in power distribution system. Its main features are two-way door opening and using butt bushing as connection bus-bar. It has remarkable advantages such as small length, clear cable arrangement and no need for large span crossing of three-core cable. The cable connectors are in accordance with the DIN47636 standard.

The rated current 630A bolt fixed connection type cable joint is generally adopted.

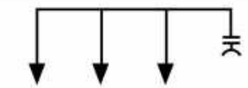
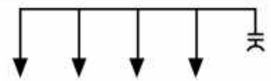
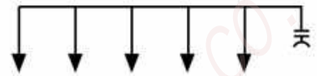
Structural features

1. Full insulation, fully sealed structure, full protection, full working conditions;
2. Flexible entry and exit, the actual application of the most branches and exports of eight branches;
3. Anti frost, anti condensation;
4. With semi conductive shielding layer of silicone rubber cable connector, to ensure personal safety;
5. The realization of district multi-channel transmission.
6.The cable head is touch type.

The main technical parameters

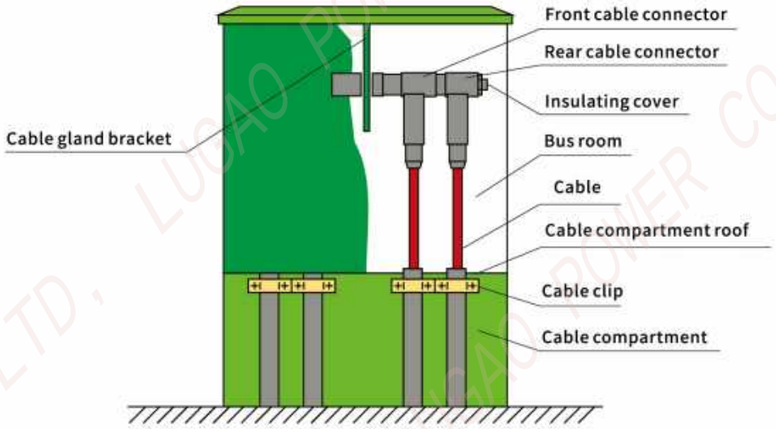
Technical indicators	parameter
Rated voltage	10kV
Maximum operating voltage	12kV
Rated current	630A
Power frequency withstand voltage (phase to ground)	45kV/1min
Partial Discharge	<3PC
Impulse voltage	105kV
DC withstand voltage	52kV/15min

Typical solution wiring

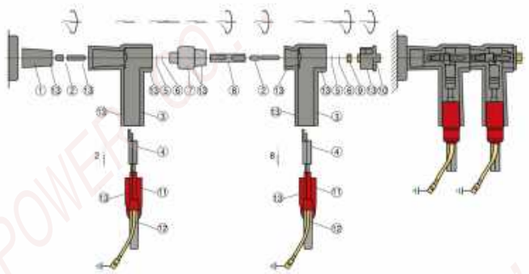
Model	Aplan	Size (W x D x H)
DFW10-12-3		890 x 720 x 980
DFW10-12-4		890 x 720 x 980
DFW10-12-5		1170 x 720 x 980
DFW10-12-6		1170x 720 x 980

Note: " 夬 " is a live indicator.

Ordinary four branch cable branch box structure diagram



Installation diagram



1. Socket
2. Stud bolts
3. Plug
4. Wire ear
5. Gasket
6. Spring washer
7. Silicone rubber joint
8. Stud bolts
9. Nuts
10. Blocking cover
1. Application Cone
12. Ground wire
13. Installation paste

Stress cone number	Cable surface	Core insulation diameter
5002	25-35	14.8-19.2
5003	50-95	17.0-24.3
5005	120-240	22.4-33.6
5410	300-400	30.9-36.1

DFW-12

Cable distribution box (outdoor switching station)



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

Overview

The DFW-12 series outdoor ring main unit is an inflatable outdoor ring main unit developed and produced by the company using foreign technology, based on the characteristics of distribution networks in various regions of China and the actual situation of cable transformation in urban distribution networks, with international first-class standards. The DFW-12 series outdoor ring main unit adopts XGN6-12/24 series SF6 fully sealed and fully insulated ring main switchgear, which has the advantages of modularity, scalability, full insulation, full sealing, safety and reliability, and maintenance free. It is suitable for any harsh environment and is widely used in industrial parks, residential areas, streets, airports, various buildings, bustling commercial centers and other places. The DFW-12 series outdoor ring main unit has standard voltage levels of 12kV and 24kV, and can expand the automation function of the distribution network, realizing the intelligence of the ring main unit and making the power grid stronger and smarter.

Product Number

DFW - 12 / H-□

- Switch type and quantity
- Ring network type
- Rated voltage level
- Cable Distribution box

Normal use conditions

1. Environmental temperature: maximum temperature+50 ℃ , minimum temperature -40 ℃ , maximum daily average temperature not exceeding 35 ℃ ;

2. Relative humidity: daily average not exceeding 95%, monthly average not exceeding 90%;

3. Wind speed: not exceeding 35m/s;

4. Pollution level: Level III;

5. Earthquake intensity: 8 degrees;

6. Ground inclination: not greater than 3 degrees;

7. Installation location: Installed in a place without fire, explosion or severe vibration, with good ventilation and no corrosive gases. special conditions

8.When the equipment is installed at an altitude of over 2000 meters, special attention should be paid so that the company can adjust the SF6 pressure during manufacturing.

9.If special harsh conditions are involved, please be sure to consult the company.

Normal use conditions

high security

All live parts are enclosed in SF6 gas boxes to achieve full sealing and insulation;

Equipped with mechanical interlocking that meets the five prevention requirements to prevent the occurrence of misoperation;

The incoming and outgoing cables adopt a fully insulated, fully sealed, and touchable connection method to ensure maximum personal safety;

The box is equipped with an air pressure monitoring device to achieve real-time monitoring of air pressure during operation;

There is an explosion-proof pressure relief device located below the gas box, which has passed the internal combustion arc test conducted by authoritative institutions.

Flexible plan

The entry and exit methods are flexible, allowing for left, right, and bottom entry (exit);

Flexible combination method, allowing for arbitrary combinations between all units and unlimited expansion;

Adopting a built-in busbar expansion method, fully meeting the requirements of usability, economy, and aesthetics;

The design scheme is flexible and can meet the on-site requirements of users.

Compact and reasonable structure

All unit modules have the same size (except for the metering module), and the compact size does not affect the convenience of construction.

economy

Maintenance free; Small footprint and high cost-effectiveness; The service life exceeds 30 years.

widely used

The stainless steel plate of the air box is fully automatic TIG sealed and welded by a robot, with a protection level of IP67. It can be installed in damp, dusty, salt polluted, mining and any air polluted place without taking special preventive measures.

intelligentization

We can provide electric operating devices and distribution automation terminal equipment to achieve intelligent switch devices with "four remote" functions, meeting all the requirements of the smart grid for such devices.

GW4-12、15、24

Outdoor high-voltage isolation switch



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

Overview

GW4-12、15、24type outdoor high voltage disconnecting switch is a three-phase AC 50 Hz high voltage switchgear, which is used in rated voltage 10,15,20 kV power system, used as a switching circuit when there is voltage and no load.

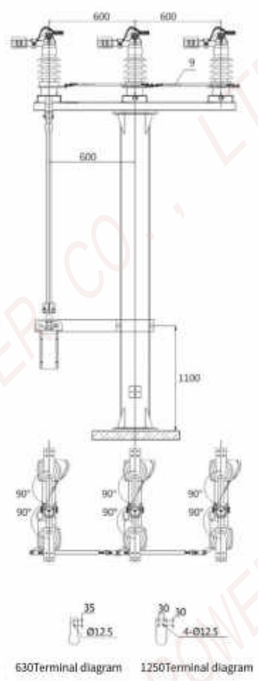
Product structure

The product is composed of a base, a post insulator, a conductive part and a CS17 manual operation structure. Structural features: Single fracture, double column horizontal opening type, ungrounded, single grounded, and double grounded. The contactor has reliable electrical conductivity and is easy to operate.

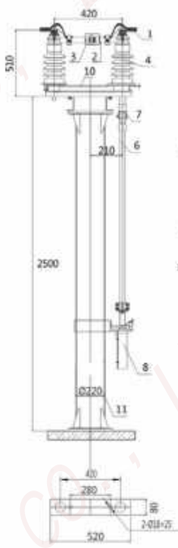
The main technical parameters

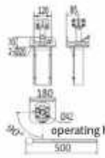
No.	Item		Unit	Data		
1	Rated voltage		kV	10	15	20
2	Maximum voltage		kV	12	17.5	24
3	Rated current		kA	400,630,1250		
4	Rated thermal stability current 4 s(effective)		kA	16	20	31.5
5	Rated dynamic stability current (peak)		kA	40	50	80
6	1 min Power frequency withstand voltage (valid value)	To earth	kV	42		45
		Fracture	kV	50		55
7	Rated lightning impulse withstand voltage (peak)	To earth	kV	75		105
		Fracture	kV	85		125
8	Terminal rated static tension		N	500		

The main technical parameters



630Terminal diagram 1250Terminal diagram





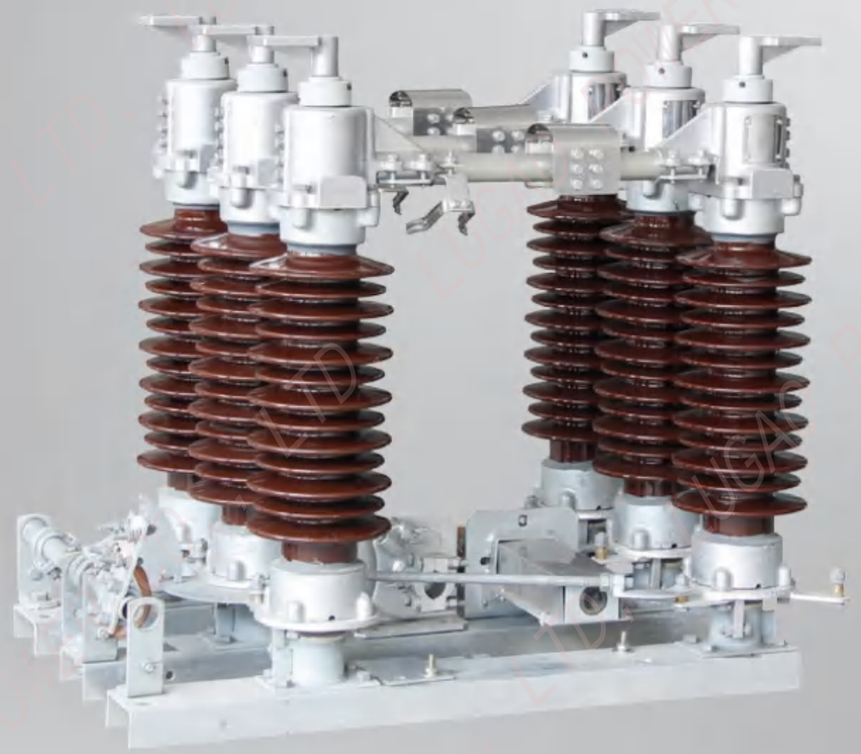
CS17 manual operating mechanism (not grounded)

Note:
No soft connection is added for current 630A
Installation size 280
Installation hole 16x25
Mounting bracket is prepared by user
Handshake type, double open, ungrounded

1.Terminal
2.Conductive pole
3.Contact
4.Porcelain pillar
5.Switch base
6.Main blade vertical link
7.Connector
8.Main blade operating mechanism
9.Main blade three-phase connecting rod
10.Single-pole connecting rod
11.The bracket part is prepared by user

GW4-40.5

Outdoor high-voltage isolation switch



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

Overview

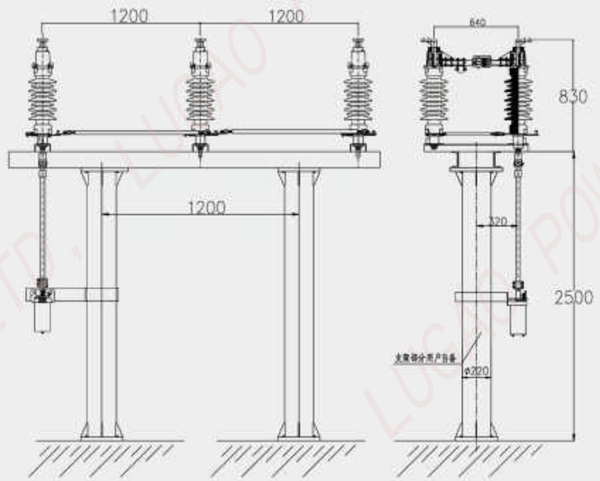
GW4-40.5 outdoor disconnecting switch is an AC 50Hz outdoor high-voltage electrical equipment. It is used to open and close high-voltage lines under no-load conditions, as well as to electrically isolate the high-voltage lines of the overhauled high-voltage bus, circuit breaker and other electrical equipment. It can be used to open and close small capacitor or inductor current.

This series of outdoor disconnecting switches meets the relevant regulations of GB1985 "AC High Voltage Disconnecting Switches and Earthing Switches", IEC60129 "AC Disconnecting Switches and Earthing Switches" and GB/T11022 "Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards" and other standards.

Main Technical Parameters

No	Ltem			Unit	Data							
1	Rated Voltage			Kv	40.5							
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	Kv	95							
			Fracture	Kv	115							
		Lightning Impulsewithstand Voltage (Peak)	To Earth	Kv	185							
			Fracture	Kv	215							
3	Rated Frequency			Hz	50							
4	Rated Current			A	400	630	1000	1250	1600	2000	3150	4000
5	4s Short-Time Withstand Current			Ka	16	20	31.5	31.5	40	40	50	50
6	Peak Withstand Current			Ka	40	50	63	80	100	100	125	125
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	4/2							
8	Rated Terminalm Echanical Load		Horizontal Longitudinal Load	N	1000							
			H Orizontal Lateral Load	N	750							
			Vertical Force	N	1000							
9	Creepage Distance			Mm	1025-1250							
10	M Echanical Life			Times	2000							
11	Manual Operatingmechanism		No Grounding		Cs11(F)							
			Single Grounding		Cs8-6d(F)							
			Double Grounding		Main Blade Cs14g(F); Grounding Bladecs11(F)							
12	Motor Operatingmechanism		Model No.		Cj5/Cj6							
			Motor Voltage	V	Ac380,Ac220,Dc220v							
			Controlling Circuit Voltage	V	Ac220,Dc220v							
			Opening And Closing Time	S	6±1							
13	Product Weight		No Grounding	Kg	360							
			Single Grounding	Kg	410							
			Double Grounding	Kg	460							

Appearance And Installation Dimensions



GW4-72.5

Outdoor high-voltage isolation switch



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

Overview

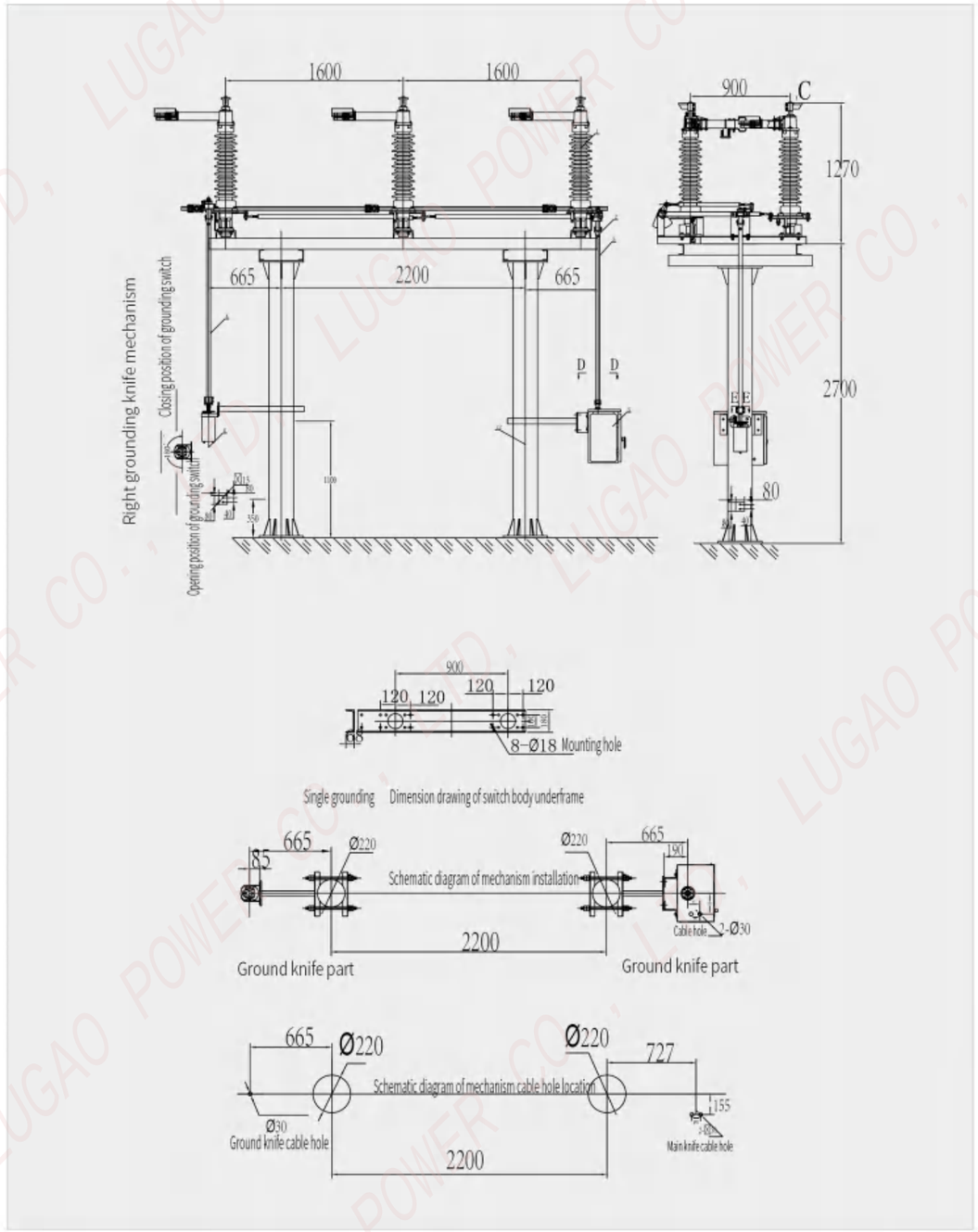
The GW4-72.5 outdoor disconnecting switch is an AC 50Hz outdoor high-voltage electrical equipment. It is used to open and close high-voltage lines under no-load conditions, and to electrically isolate the high-voltage lines of the overhauled high- voltage bus, circuit breakers and other electrical equipment. It can be used to open and close small capacitor or inductor current.

This series of outdoor disconnecting switches meets the relevant regulations of GB1985 "AC High Voltage Disconnecting Switches and Earthing Switches", IEC60129 " AC Disconnecting Switches and Earthing Switches" and GB/T11022 "Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards" and other standards.

Main Technical Parameters

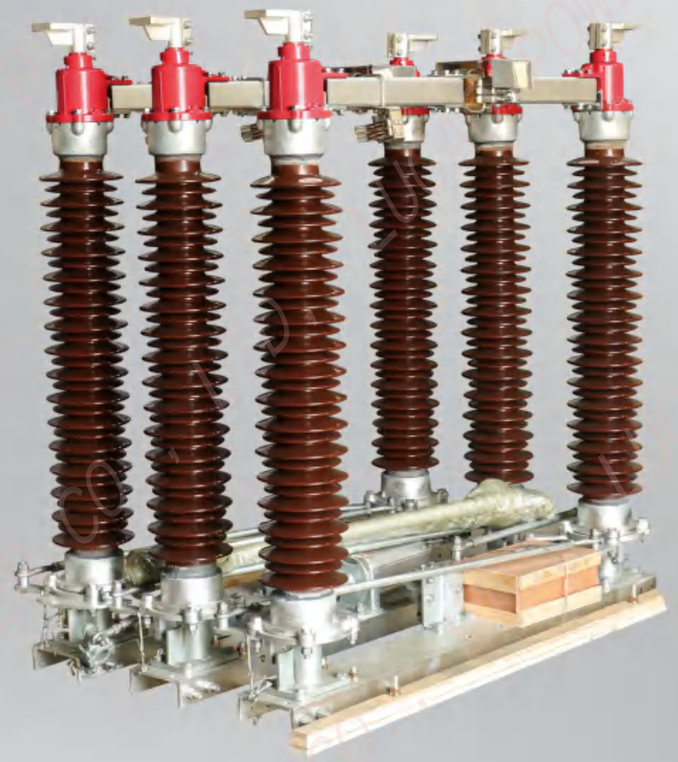
No	Ltem			Unit	Data							
1	Rated Voltage			Kv	72.5							
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	Kv	140							
			Fracture	Kv	160							
		Lightning Impulsewithstand Voltage (Peak)	To Earth	Kv	325							
			Fracture	Kv	375							
3	Rated Frequency			Hz	50							
4	Rated Current			A	400	630	1000	1250	1600	2000	3150	4000
5	4s Short-Time Withstand Current			Ka	16	20	31.5	31.5	40	40	50	50
6	Peak Withstand Current			Ka	40	50	63	80	100	100	125	125
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	4/2							
8	Rated Terminalm Echanical Load	Horizontal Longitudinal Load		N	1000							
		H Orizontal Lateral Load		N	750							
		Vertical Force		N	1000							
9	Creepage Distance			Mm	1800-2250							
10	M Echanical Life			Times	2000							
11	Manual Operatingmechanism	No Grounding			CS11(F)							
		Single Grounding			CS8-6D(F)							
		Double Grounding			Main Blade Cs14g(F); Grounding Bladecs11(F)							
12	Motor Operatingmechanism	Model No.			CJ5/CJ6							
		Motor Voltage		V	AC380,AC220,DC220V							
		Controlling Circuit Voltage		V	AC220,DC220V							
		Opening And Closing Time		S	6±1							
13	Product Weight	No Grounding		Kg	500							
		Single Grounding		Kg	600							
		Double Grounding		Kg	700							

Appearance And Installation Dimensions



GW4-126

Outdoor high-voltage isolation switch



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

Overview

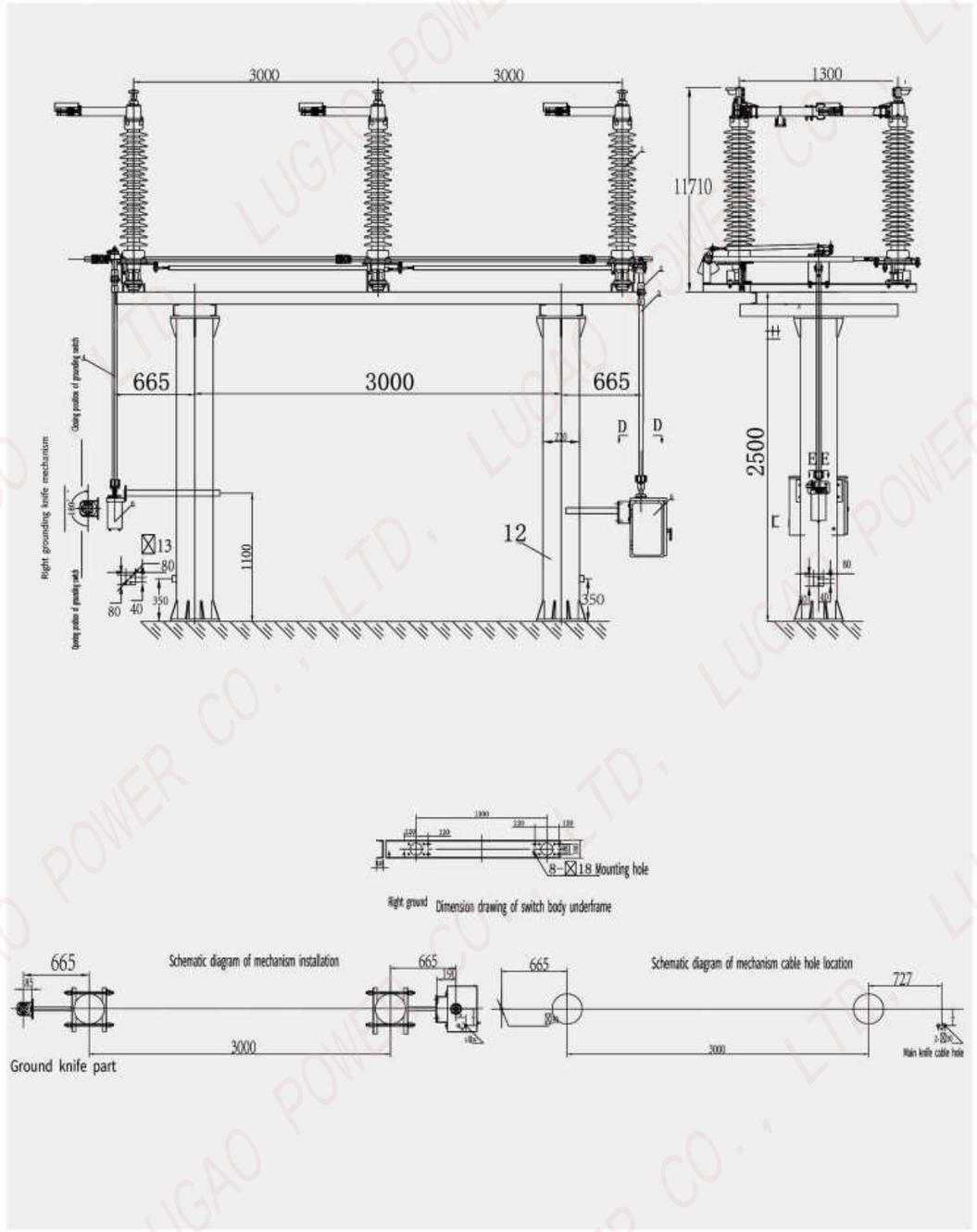
GW4-126 outdoor disconnecting switch is an AC 50Hz outdoor high-voltage electrical equipment. It is used to open and close high-voltage lines under no-load conditions , and to electrically isolate the high- voltage lines of the overhauled high- voltage bus, circuit breakers and other electrical equipment. It can be used to open and close small capacitor or inductor current.

This series of outdoor disconnecting switches meets the relevant regulations of GB1985 "AC High Voltage Disconnecting Switches and Earthing Switches", IEC60129 " AC Disconnecting Switches and Earthing Switches" and GB/T11022 "Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards" and other standards.

Main Technical Parameters

No	Ltem			Unit	Data							
1	Rated Voltage			Kv	126							
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	Kv	230							
			Fracture	Kv	245							
		Lightning Impulsewithstand Voltage (Peak)	To Earth	Kv	550							
			Fracture	Kv	630							
3	Rated Frequency			Hz	50							
4	Rated Current			A	400	630	1000	1250	1600	2000	3150	4000
5	4s Short-Time Withstand Current			Ka	16	20	31.5	31.5	40	40	50	50
6	Peak Withstand Current			Ka	40	50	63	80	100	100	125	125
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	4/2							
8	Rated Terminalm Echanical Load		Horizontal Longitudinal Load	N	1000							
			H Orizontal Lateral Load	N	750							
			Vertical Force	N	1000							
9	Creepage Distance			Mm	3150-3900							
10	M Echanical Life			Times	2000							
11	Manual Operatingmechanism		No Grounding		Cs11(F)							
			Single Grounding		Cs8-6d(F)							
			Double Grounding		Main Blade Cs14g(F); Grounding Bladecs11(F)							
12	Motor Operatingmechanism		Model No.		Cj5/Cj6							
			Motor Voltage	V	Ac380,Ac220,Dc220v							
			Controlling Circuit Voltage	V	Ac220,Dc220v							
			Opening And Closing Time	S	6±1							
13	Product Weight		No Grounding	Kg	700							
			Single Grounding	Kg	800							
			Double Grounding	Kg	900							

Appearance And Installation Dimensions



GW4-252

Outdoor high-voltage isolation switch

LUGAO



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

Overview

The complete disconnecting switch consists of GW4-252(D)(W) type disconnecting switch body, CS14G or CS17G type manual operating mechanism, transmission accessories, etc. It can also be equipped with CJ6 type and other electric mechanisms.

The disconnecting switch is double-post horizontal opening type. Each single pole part is composed of base, post insulator, an outlet seat and a contact. The two post insulators are installed parallel to each other on the bearings at both ends of the base and are perpendicular to the base.

The main conductive parts are respectively installed above the two insulators and rotate about 90° with the post insulators. The bearing seat of the disconnecting switch is designed as a fully sealed structure, which can prevent the jam caused by dust, moisture, and harmful gas entering the bearing seat; the bearing seat is equipped with thrust ball bearings and radial ball bearings to separate the gravity and level of the disconnecting switch.

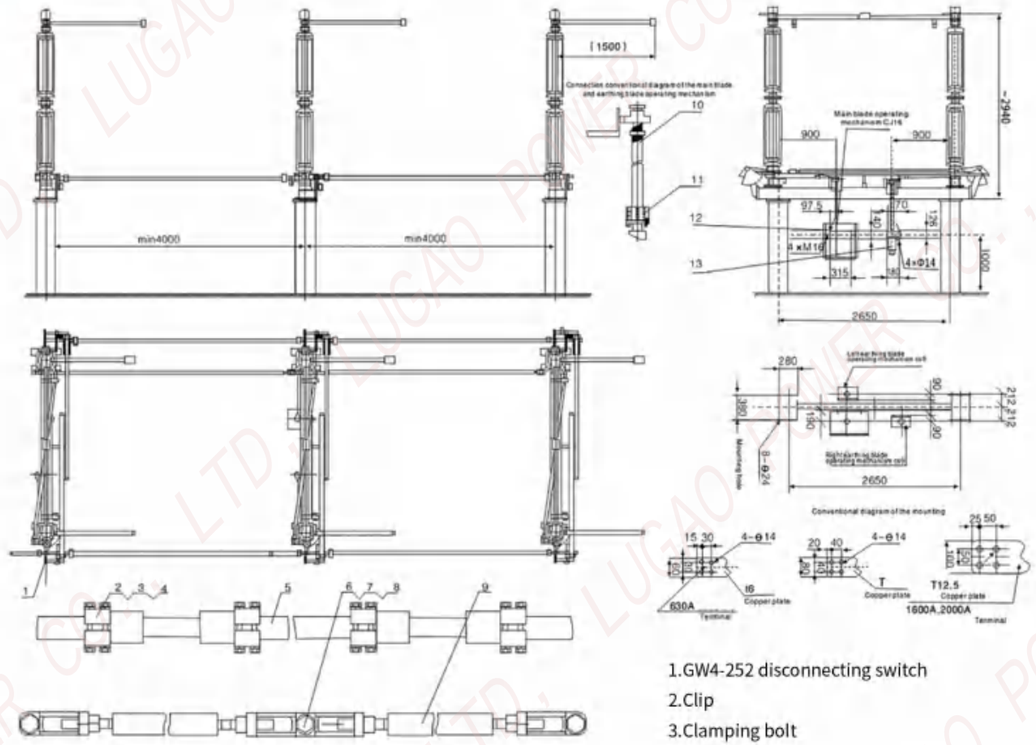
The force is borne by these two special bearings, so that the operating torque of the disconnecting switch will not increase after long-term operation. Each pole and two shaft assembly rooms are connected and driven by connecting plates, adjusting screws, etc. It adopts stainless steel shaft pin and self-lubricating shaft sleeve, and the lubricant is high-efficiency lithium molybdenum disulfide greas. The copper braid in the outlet seat is fastened to the conductive rod and the wiring board respectively, and the wiring board is used for users to connect the circuit.

The contact fingers of the middle contact part are assembled in pairs, and the contact fingers clamp the contact finger seat and the contact head by the spring to achieve the wear between the contact head and the contact finger and increase the service life. When the disconnecting switch is equipped with a grounding switch, the interlocking of the main conductive circuit and the grounding switch is guaranteed by the sector plate and arc plate on the base. When the main conductive circuit is closed, the grounding switch cannot be closed. When the grounding switch is closed, The main conductive circuit cannot be closed.

Main Technical Parameters

No	Item			Unit	Data
1	Rated Voltage			Kv	250
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	Kv	460
			Fracture	Kv	460+145
		Lightning Impulsewithstand Voltage (Peak)	To Earth	Kv	1050
			Fracture	Kv	1050+200
3	Rated Frequency			Hz	50
4	Rated Current			A	1250 1600 2000 2500
5	4s Short-Time Withstand Current			Ka	31.5 40 50 50
6	Peak Withstand Current			Ka	80 100 125 125
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	3/2
8	Rated Terminalm Echanical Load		Horizontal Longitudinal Load	N	1500
			H Orizontal Lateral Load	N	1000
			Vertical Force	N	1250
9	Creepage Distance			mm	5040 6300 7812
10	Mechanical Life			Times	10000
11	Motor Operatingmechanism		Model No.		CJ6B
			Motor Voltage	V	AC380,AC220,DC220V,DC110
			Controlling Circuit Voltage	V	AC220,AC380,DC220V,DC110
			Opening And Closing Time	S	8±1
12	Product Weight		MODELNO		CS9、CS14G、CS17G
			Single Grounding	V	AC220、DC220、DC110

Appearance And Installation Dimensions



Outdoor high voltage isolating switch three-phase linkage layout diagram

1.GW4-252 disconnecting switch
2.Clip
3.Clamping bolt
4.Key
5.40 Water gas pipe
6.Stainless steel swivel
7.Connector
8.Fixing bolts
9.32 Water gas pipe
10.Vertical link
11.Connecting rod clip
12.Main blade CJ6 motor mechanism
13.Grounding blade CS9 manual mechanism

GW5-40.5

Outdoor high-voltage isolation switch



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

Overview

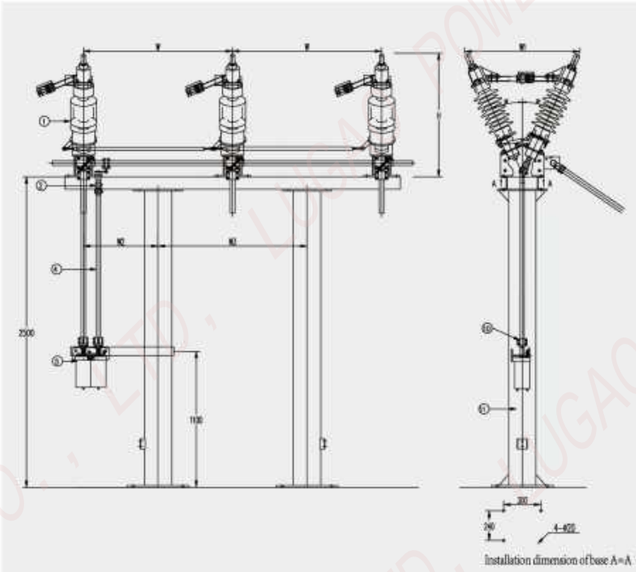
GW5-40.5 outdoor isolating switch is an AC 50Hz outdoor high-voltage electrical equipment. It is used to open and close high-voltage lines under no-load conditions, and to electrically isolate the high-voltage lines of the overhauled high-voltage bus, circuit breakers and other electrical equipment. It can be used to open and close small capacitor or inductor current.

This series of outdoor isolating switches meets the relevant regulations of GB1985 "AC High Voltage Isolating Switches and Earthing Switches", IEC60129 "AC Isolating Switches and Earthing Switches" and GB/T11022 "Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards" and other standards.

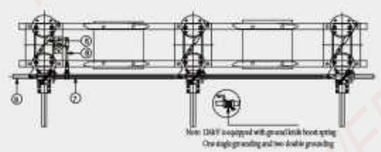
Main Technical Parameters

No	Ltem			Unit	Data								
1	Rated Voltage			Kv	40.5								
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	Kv	95								
			Fracture	Kv	115								
		Lightning Impulsewithstand Voltage (Peak)	To Earth	Kv	185								
			Fracture	Kv	215								
3	Rated Frequency			Hz	50								
4	Rated Current			A	630		1250		1600		2000		2500
5	4s Short-Time Withstand Current			Ka	20	25	25	31.5	31.5	40	31.5	40	40
6	Peak Withstand Current			Ka	50	63	63	80	80	100	80	100	100
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	4/2								
8	Rated Terminalm Echanical Load		Horizontal Longitudinal Load	N	750								
			H Orizontal Lateral Load	N	500								
			Vertical Force	N	750								
9	Creepage Distance			Mm	1013/1256								
10	M Echanical Life			Times	2000								
11	Manual Operatingmechanism		Model No.		CS17,CS17G								
12	Motor Operatingmechanism		Model No.		Cj5/Cj6								
			Motor Voltage	V	Ac380,Ac220,Dc220v								
			Controlling Circuit Voltage	V	Ac220,Dc220v								
			Opening And Closing Time	S	6±1								
13	Product Weight		No Grounding	Kg	360								
			Single Grounding	Kg	410								
			Double Grounding	Kg	460								

Appearance And Installation Dimensions



KV	W	W1	W2	W3	H
40.5	1200	920	600	1200	995



Installation dimension of base A-A

GW5-72.5

Outdoor high-voltage isolation switch



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

Overview

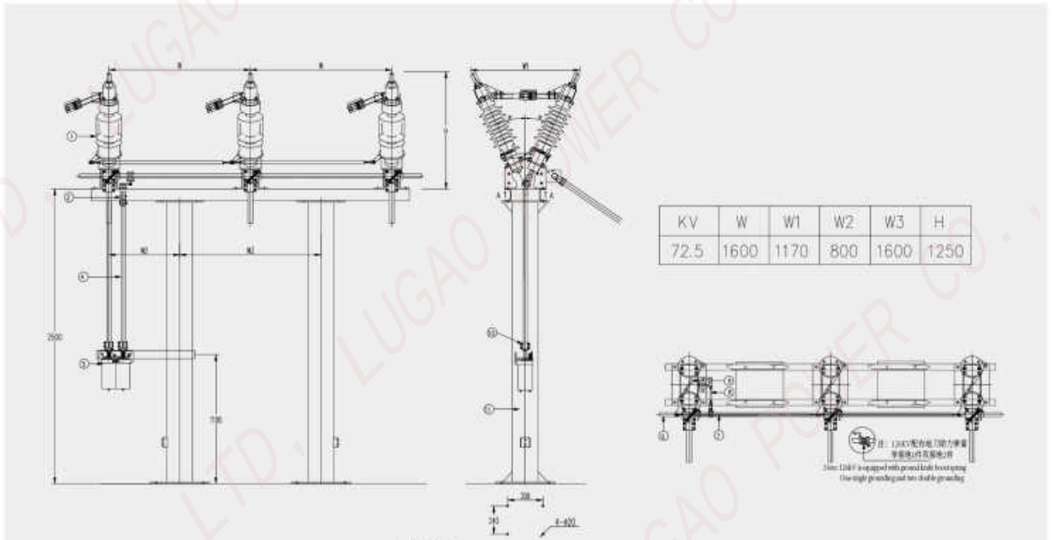
GW5-72.5 outdoor disconnecting switch is an AC 50Hz outdoor high-voltage electrical equipment. It is used to open and close high- voltage lines under no-load conditions, and to electrically isolate the high-voltage lines of the overhauled high-voltage bus, circuit breakers and other electrical equipment. It can be used to open and close small capacitor or inductor current.

This series of outdoor disconnecting switches meets the relevant regulations of GB1985 "AC High Voltage Disconnecting Switches and Earthing Switches", IEC60129 "AC Disconnecting Switches and Earthing Switches " and GB/T11022 "Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards" and other standards.

Appearance And Installation Dimensions

No	Ltem			Unit	Data								
1	Rated Voltage			KV	72.5								
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	KV	140								
			Fracture	KV	160								
		Lightning Impulsewithstand Voltage (Peak)	To Earth	KV	325								
			Fracture	KV	375								
3	Rated Frequency			HZ	50								
4	Rated Current			A	630		1250		1600		2000		2500
5	4s Short-Time Withstand Current			KA	20	25	25	31.5	31.5	40	31.5	40	40
6	Peak Withstand Current			KA	50	63	63	80	80	100	80	100	100
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	4/2								
8	Rated Terminalm Echanical Load		Horizontal Longitudinal Load	N	1000								
			H Orizontal Lateral Load	N	750								
			Vertical Force	N	1000								
9	Creepage Distance			MM	1813/2248								
10	M Echanical Life			times	2000								
11	Manual Operatingmechanism		Model No.		CS17,CS17G								
12	Motor Operatingmechanism		Model No.		CJ5/CJ6								
			Motor Voltage	V	AC380,AC220,DC220V								
			Controlling Circuit Voltage	V	AC220,DC220V								
			Opening And Closing Time	S	6±1								
13	Product Weight		No Grounding	KG	500								
			Single Grounding	KG	600								
			Double Grounding	KG	700								

Appearance And Installation Dimensions

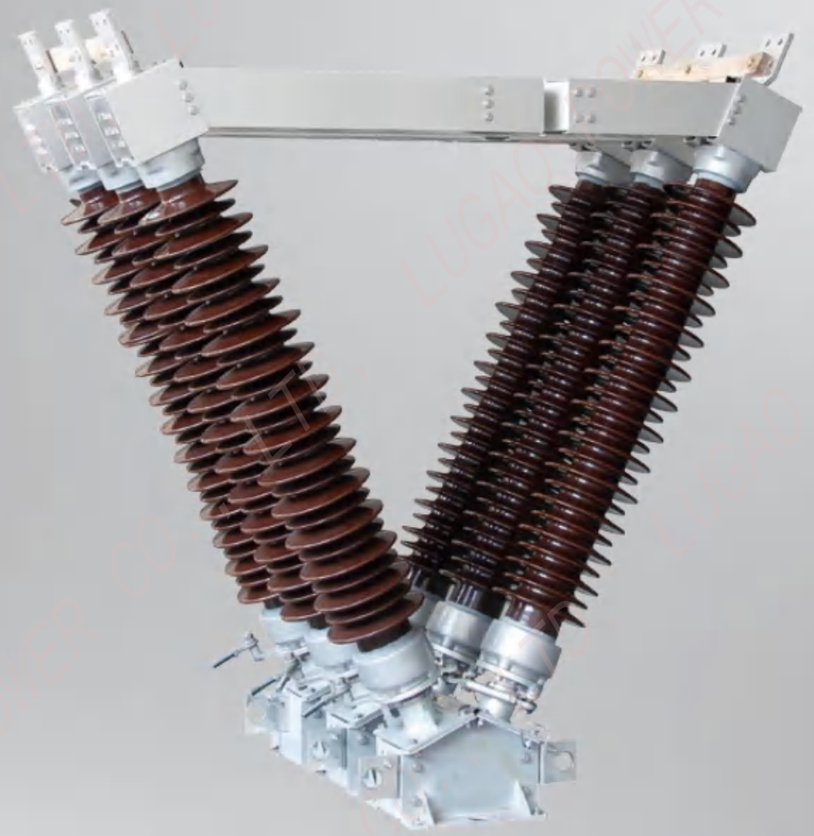


KV	W	W1	W2	W3	H
72.5	1600	1170	800	1600	1250

GW5-126

Outdoor high-voltage isolation switch

LUGAO



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

Overview

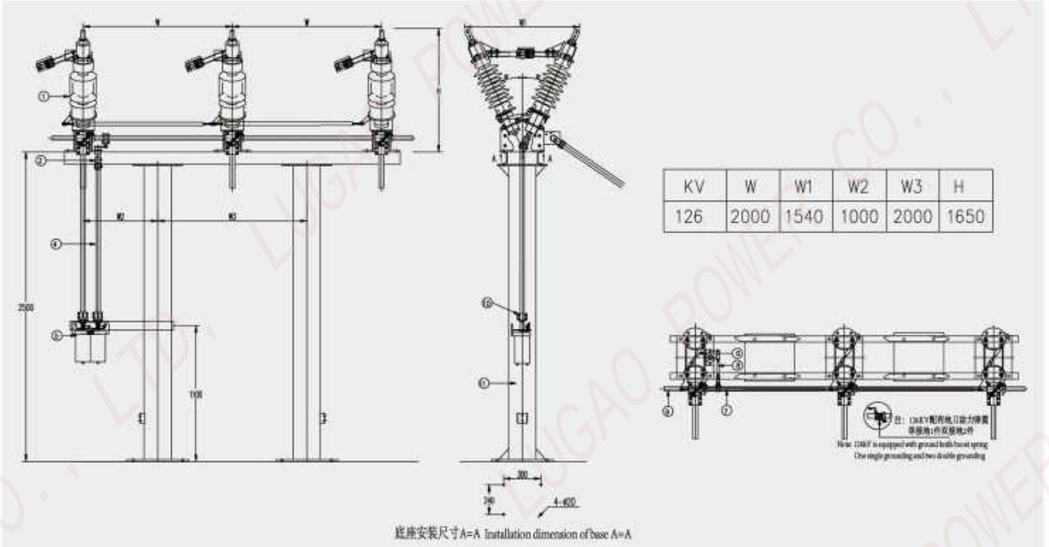
GW5-126 outdoor disconnecting switch is an AC 50Hz outdoor high-voltage electrical equipment. It is used to open and close high-voltage lines under no- load conditions, and to electrically isolate the high-voltage lines of the overhauled high-voltage bus, circuit breakers and other electrical equipment. It can be used to open and close small capacitor or inductor current.

This series of outdoor disconnecting switches meets the relevant regulations of GB1985 "AC High Voltage Disconnecting Switches and Earthing Switches", IEC60129 "AC Disconnecting Switches and Earthing Switches" and GB/ T11022 "Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards" and other standards.

Appearance And Installation Dimensions

No	Ltem			Unit	Data
1	Rated Voltage			KV	126
2	Rated Insulation Level	1 Min Power Frequencywithstand Voltage(Valid Value)	To Earth	KV	230
			Fracture	KV	245
		Lightning Impulsewithstand Voltage (Peak)	To Earth	KV	550
			Fracture	KV	630
3	Rated Frequency			HZ	50
4	Rated Current			A	630 / 1250 / 1600 / 2000 / 2500
5	4s Short-Time Withstand Current			KA	20 / 25 / 25 / 31.5 / 31.5 / 40 / 31.5 / 40 / 40
6	Peak Withstand Current			KA	50 / 63 / 63 / 80 / 80 / 100 / 80 / 100 / 100
7	Rated Short Time Withstand Curent Durationmain Blade/ Grounding Blade			S	4/2
8	Rated Terminalm Echanical Load		Horizontal Longitudinal Load	N	1000
			H Orizontal Lateral Load	N	750
			Vertical Force	N	1000
9	Creepage Distance			MM	3150/3906
10	M Echanical Life			times	2000
11	Manual Operatingmechanism		Model No.		CS17,CS17G
12	Motor Operatingmechanism		Model No.		CJ5/CJ6
			Motor Voltage	V	AC380,AC220,DC220V
			Controlling Circuit Voltage	V	AC220,DC220V
			Opening And Closing Time	S	6±1
13	Product Weight		No Grounding	KG	700
			Single Grounding	KG	800
			Double Grounding	KG	900

Appearance And Installation Dimensions



KV	W	W1	W2	W3	H
126	2000	1540	1000	2000	1650

GW8-40.5/72.5/126KV

Neutral point high voltage isolation switch

LUGAO



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

LUGAO POWER CO., LTD.

Overview

This isolation switch is composed of a post insulator, an insulating porcelain bottle, and a conductive part. A static contact and a connecting plate for connecting the busbar are installed on the upper part of the post insulator. There is a metal base, an operating lever, and an operating insulator between the supporting insulator and the insulating porcelain bottle seat. The base is equipped with a knife switch, and the CS8-5 manual operating mechanism is connected to the knife switch through a connecting rod, an operating insulator, and a crank arm. It can also be equipped with a CJ6 electric mechanism.

Product Features

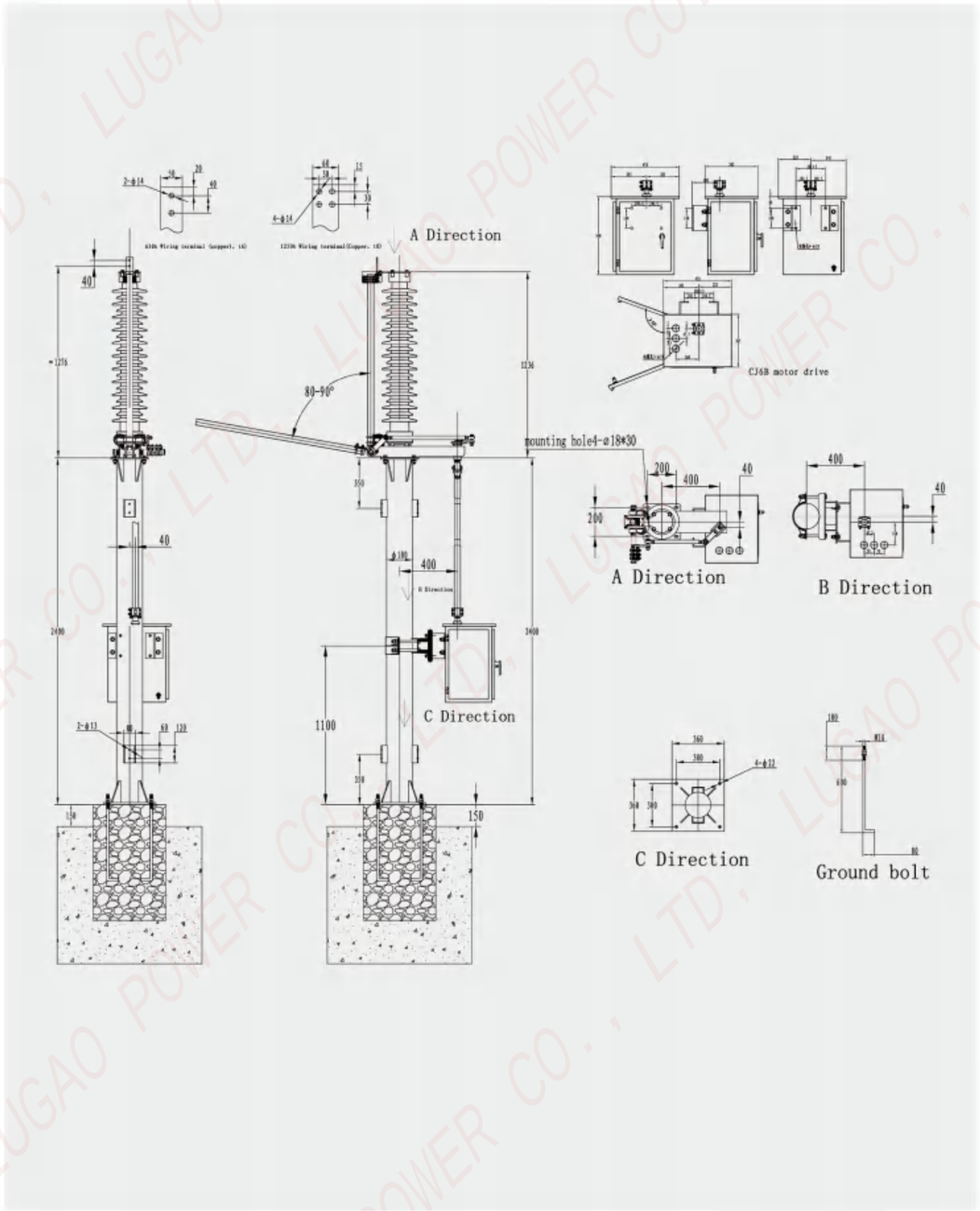
◇The isolation switch adopts a double column center opening and contact turning structure, which has the ability to self clean contacts and improves contact reliability;

◇ The rotating part of the isolation switch is designed to be maintenance free. The rotating seat is designed with a sealed structure, which prevents water vapor, dust, and harmful gases from entering, ensuring that the bearings and lithium based grease of molybdenum disulfide always work in a good environment. The shaft spine does not rust, the grease cannot be lost, and it never dries, so that the rubbing torque of the isolation switch will not increase after long-term operation. Adopting a structure that combines stainless steel shaft pins with oil-free self-lubricating shaft supports; The steel components are hot-dip galvanized to ensure flexible, lightweight, reliable, and rust free operation of the isolation switch.

Main technical parameters

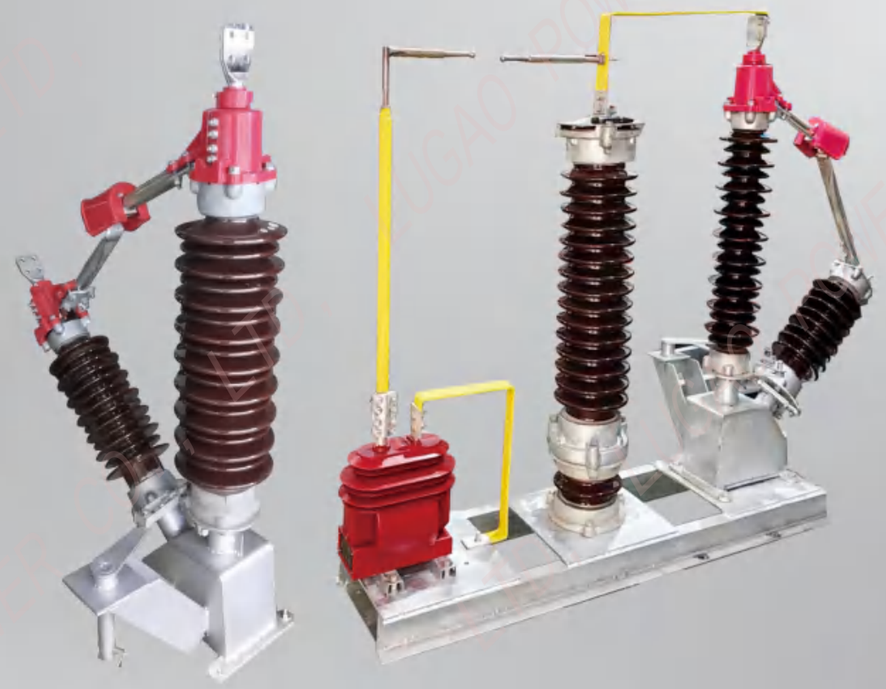
name	unit	GW8-72.5	GW8-126
rated voltage	kV	72.5	126
rated current	A	400,630,1250	400,630,1250
Rated short-term financial current 4S	kA	8,20,31.5	8,20,31.5
Rated peak withstand current	kA	20,50,80	20,50,80
1min power frequency withstand voltage (effective value)	kV	140	230
Lightning impulse withstand voltage (peak value)	kV	325	450
mechanical life	次	2000	2000
Rated mechanical load of terminal block	mm	>675	>1050
Leakage ratio distance	fxQ	<180	<200
Supporting organization		Cs17 (Or) CJ6、CK7, Cs14	
Unipolar weight	Kg	160	200

Appearance And Installation Dimensions



GW13-40.5/72.5/126KV

Neutral point high voltage isolation switch



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

Overview

The isolation switch consists of a bracket, base, post insulator, contact, terminal block, and other parts. The post insulators and conductive parts are installed on the base, with an intersection angle of 50 ° between the two post insulators. The base is fixed on a bracket tilted at 25 degrees. The bracket is equipped with a shaft connected to the operating machine. Can be equipped with CS17-G manual kneading mechanism or CJ6 electric mechanism.

Product Features

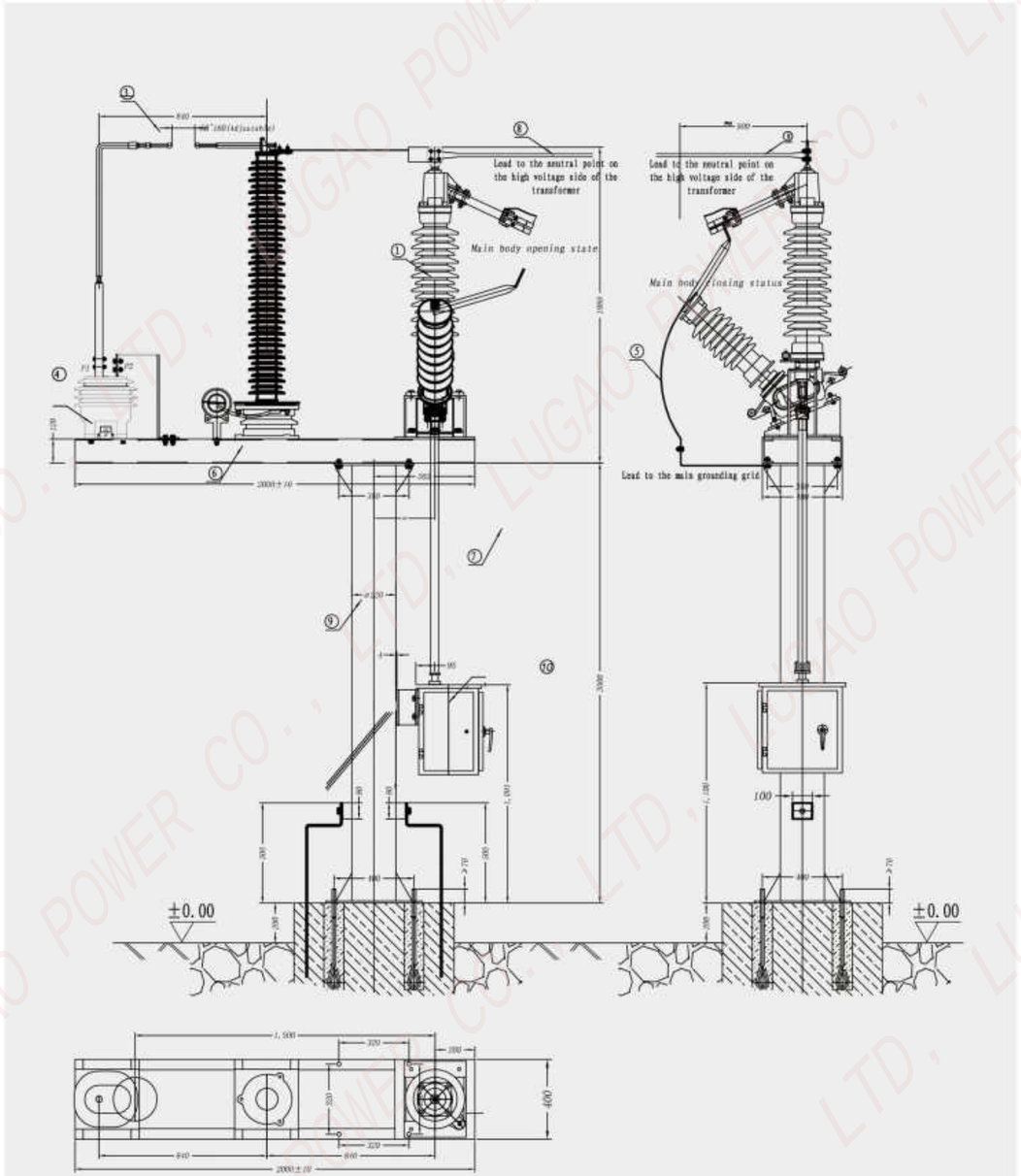
The isolation switch adopts a double column center opening and contact turning structure, which has the ability to self clean contacts and improves contact reliability;
The rotating part of the isolation switch is designed to be maintenance free. The rotating seat is designed with a sealed structure, which prevents water vapor, dust, and harmful gases from entering, ensuring that the bearings and lithium based grease of molybdenum disulfide always work in a good environment. The shaft spine does not rust, the grease cannot be lost, and it never dries, so that the rubbing torque of the isolation switch will not increase after long-term operation. Adopting a structure that combines stainless steel shaft pins with oil-free self-lubricating shaft supports; The steel components are hot-dip galvanized to ensure flexible, lightweight, reliable, and rust free operation of the isolation switch.

Main technical parameters

name	unit	GW13-72.5	GW13-126
rated voltage	kV	72.5	126
rated current	A	630	630
Rated short-term financial current 4S	kA	20	20
Rated peak withstand current	kA	50	50
1min power frequency withstand voltage (effective value)	kV	140	230
Lightning impulse withstand voltage (peak value)	kV	325	450
mechanical life	次	2000	2000
Minimum insulation gap after disconnection	mm	>675	>1050
Main circuit resistance	fxQ	<180	<200
Supporting organization		Cs17 (Or) CJ6、CK7, Cs14	
Unipolar weight	Kg	160	200

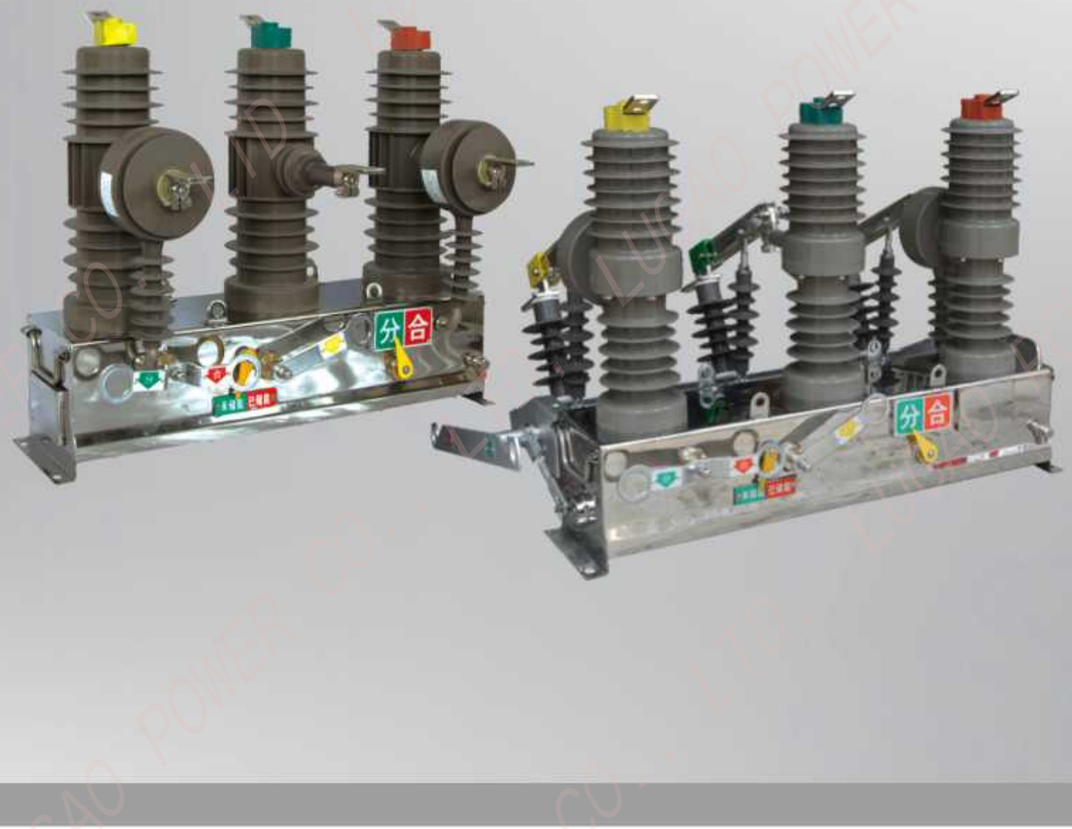
Rated voltage (kV)	Rated current (A)	4S rated short-time withstand current (kV)	Rated peak withstand current (kV)	Lightning impulse withstand voltage (kV)		1mian power frequency withstand voltage (kV)	
				relatively	Between fracture surfaces	relatively	Between fracture surfaces
11	400	12.5	31.5	75	95	38	42
24	600	12.5	31.5	125	145	65	79
33	600	12.5	31.5	170	195	70	80

Appearance And Installation Dimensions



ZW32-12

Outdoor high voltage vacuum circuit breaker



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

Overview

ZW32- 12 outdoor vacuum circuit breaker (hereinafter referred to as circuit breaker) is an outdoor power distribution equipment with a rated voltage of 12kV and a three- phase AC 50Hz. It is mainly used for breaking and closing the load current, overload current and short- circuit current in the power system. It is suitable for protection and control in substations and power distribution systems of industrial and mining enterprises, and places where rural power grids operate frequently.

The circuit breaker has the characteristics of small size, light weight, anti- condensation, maintenance-free, etc., and can adapt to harsh weather conditions and dirty environments.

Model and meaning

ZW 32 - 12 G / T 630 - 20 - □

- S Manual operation. D Electric operation
- Rated short-circuit breaking current (kA)
- Rated current (A)
- Bombing mechanism with isolation
- Rated voltage (kV)
- Design Number
- Outdoor vacuum circuit breaker

working conditions

◆ Ambient temperature: -409C~+40C; Altitude: 2000m and below;

◆ The surrounding air can be polluted by dust, smoke, corrosive gas, steam or salt mist, and the pollution level is grade II;

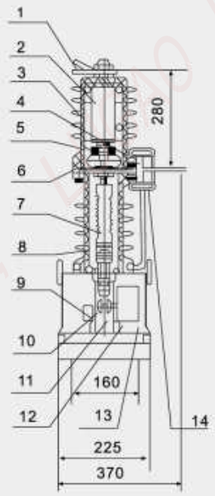
◆ The wind speed does not exceed 34m/s (equivalent to 700Pa on the cylindrical surface);

◆ Special conditions of use: The circuit breaker can be used under normal conditions different from those specified above. Please negotiate with us for special requirements.

The main technical parameters

project	Unit	Parameter
Rated voltage	kV	12
Rated frequency	Hz	50
Rated current	A	630
Rated short-circuit breaking current	kA	20
Rated peak withstand current (peak)	kA	50
Rated short-time withstand current	kA	20
Rated short-circuit making current (peak value)	kA	50
Mechanical life	次	10000
Rated short-circuit breaking current breaking times	次	30
Power frequency withstand voltage (1min): (wet) (dry) phase-to-phase, to ground/fracture	kV	42/48
Lightning impulse withstand voltage (peak value) phase-to-phase, to ground/fracture	kV	75/85
Secondary circuit 1min power frequency withstand voltage	kV	2
Dynamic and static contacts allowable cumulative thickness of wear	mm	3
Rated current of overcurrent release	A	5
Current transformer current ratio		200/5 400/5 600/5
Contact Spacing	mm	9±1
Contact overtravel	mm	2±0.5
Average opening speed	m/s	1.2±0.3
Average closing speed	m/s	0.6±0.2
Opening time	ms	20~40
Closing time	ms	30~60
Closing bounce time	ms	⩽ 2
Three-pole closing and opening of different periods		⩽ 2
DC resistance of each phase loop	μΩ	⩽ 80(With isolation as ⩽ 150)

Shape and installation dimensions



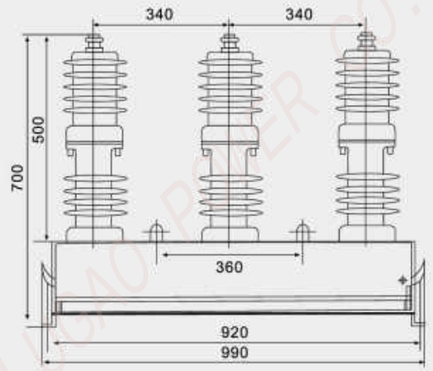
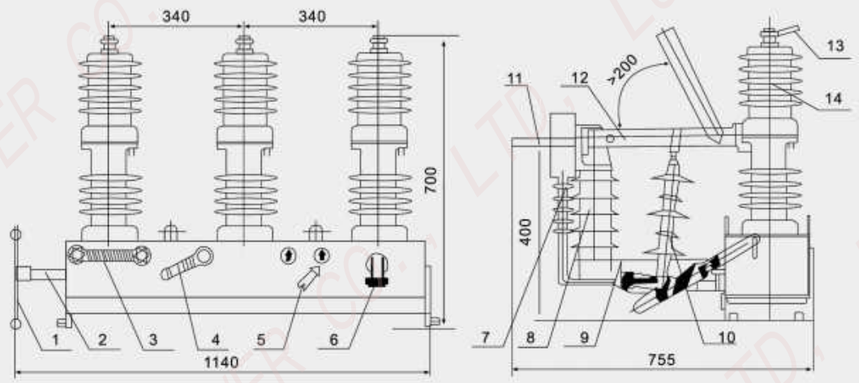


Figure 1. Structure and dimensions of ZN32 circuit breaker

1. Upper outlet 2. Arc extinguishing chamber 3. Insulation cylinder 4 .Lower outlet
5. Conductive clip 6 .Soft connection 7 .Insulation rod 8 .Contact pressure spring
9 .Opening spring 10. Drive connecting plate 11. Mechanism output shaft
12. Operating mechanism 13 .Mechanism box 14. Current transformer



1 .Operating handle 2. Isolation spindle 3. Manual opening and closing handle of circuit breaker
4 .Energy storage handle of circuit breaker 5. Opening and closing instruction 6 .Wiring plug
7 .Current transformer 8 .Insulator 9 Isolation frame 10. Insulation rod 11. Terminal board (line end)
12. Isolation blade 13. Terminal block (outlet end) 14 .circuit breakers

ZW32-24FG

Outdoor high voltage vacuum circuit breaker



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

Overview

ZW32-24(FG) series outdoor high-voltage vacuum circuit breaker (hereinafter referred to as circuit breaker) is an outdoor switchgear with three-phase AC 50Hz and rated voltage of 24kV. It is suitable for switching load currents of different natures.

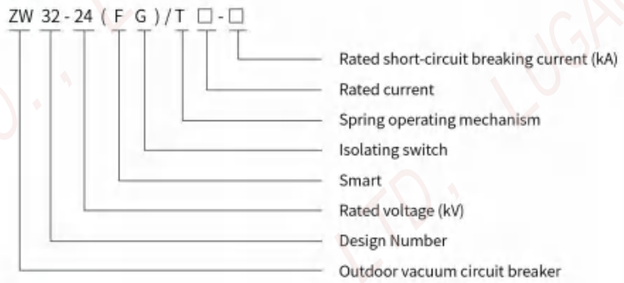
It is suitable for the construction and renovation of power equipment in urban power grids, rural power grids, mines and railways, etc.

This product is a 24kV outdoor high-voltage switchgear that is successfully developed on the basis of domestic raw materials and processes by absorbing foreign advanced technology and suitable for my country's national conditions.

Similar products have the characteristics of miniaturization, maintenance-free, intelligent, etc. At the same time, this product does not pollute the surrounding environment and is a green product.

The circuit breaker conforms to GB1984-2003 "High Voltage AC Circuit Breaker" and DL/T402-2007 "Technical Conditions for Ordering High Voltage AC Circuit Breaker" and DL/T403-200012kV~40.5kV High Voltage Vacuum Circuit Breaker Order Technical Conditions" and other technical standards.

Model meaning



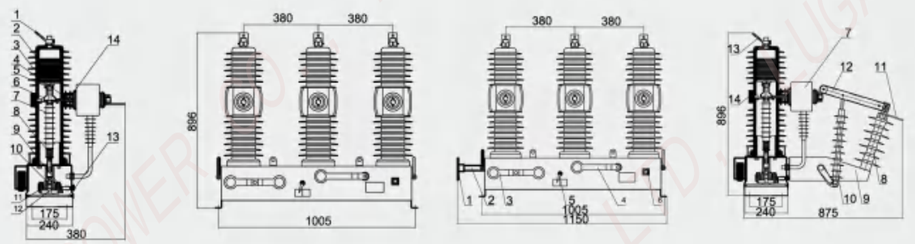
normal use conditions

- Ambient air temperature: upper limit +40° C, lower limit - 40° C;
- The relative humidity of the air: the daily average is not more than 95%, and the monthly average is not more than 90%;
- Altitude: ≤ 3000mm;
- Wind pressure: no more than 700Pa (equivalent to wind speed of 34m/s)
- Pollution level: IV (the creepage distance ≥ 31mm/kV);
- Icing thickness: ≤ 10mm;
- Installation site: There should be no fire, explosion hazard, serious pollution, chemical corrosion and severe vibration.

Main technical parameters

Project		Unit	Data	
Rated voltage		kV	24	
Rated frequency		Hz	50	
Rated current		A	630	1250
Rated short-circuit breaking current		kA	20	25
Rated peak withstand current (peak)		kA	50	63
Rated short-circuit making current (peak value)		kA	50	63
Rated short-time withstand current/duration		kA/s	20/4	25/4
Nominal Operation Sequence			0-0.3s-CO-180s-CO	
Mechanical life		Second-rate	10000	
Rated short-circuit breaking current breaking times		Second-rate	20	
1min power frequency withstand voltage	(Wet test) Alternate, ground/fracture	kV	50/65	
	(Dry test) Between Hunan and ground/fracture		65/79	
	Secondary circuit		2	
Lightning impulse withstand voltage (peak value) phase-to-phase, to ground/fracture		kA	125/145	
weight		kg	115	

Shape and installation dimensions



1 on the line	8 contact pressure spring	1 Operation handle	8 Insulators
2 Arc interrupters	9 opening spring	2 isolated spindles	9 Isolation Racks
3 insulating cylinders	10 drive connection board	3 circuit breaker manual opening and closing handle	10 insulating rods
4 exits	11 Mechanism output shaft	4 circuit breaker energy storage handle	11 Terminal board (incoming end)
5 Conductive clips	12 operating mechanism	5 points combined	12 isolation blades
6 soft links	13 mechanism box	6 wiring plugs	13 Terminal block (outlet end)
7 Insulation rods	14 Current Transformer	7 Current transformers	14 circuit breakers

Automatic Circuit Recloser



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

Voltage input

Measuring range: 0~3V

Power consumption: each phase is not greater than 0.3VAOverload capacity: 1.4 times the rated value, continuous work

Output

Continuous bearing: 5A

Breaking capacity: DC,inductive load,L/R=40ms,220V/0.5ADebounce time:1~99ms, step lms

RS485 /RS232 X5

Rate:1200-38400bps

Default rate: 9600bps

Protocol: Modbus RTU,IEC60870-5-101,DNP3.0

Ethernet port (ONLY BC500)

Mode: 10/100M(adaptive)

Interface: RJ45 X4

Protocol: ModbuSTCP/IP,DNP3.0IEC60870-5-104IEC60870-5-101 IEC-61850

Cubicle

The cubicle is integrated with a variety of electronic components, including protection relay andUPS system for device. Extra components and functions are optional.

ZW32-40.5

Series Outdoor High Voltage Vacuum Circuit Breaker(High Current)

LUGAO



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Cubicle

ZW32-40.5 kV outdoor AC high-voltage high-current vacuum circuit breaker (hereinafter referred to as circuit breaker) is an outdoor power distribution equipment with a rated voltage of 40.5 kV, 50 Hz three-phase AC. It is mainly used in power distribution network to open and close the load current, overload current and short circuit current in the power system. It is suitable for substations and industrial and mining enterprises for protection and control of power distribution system, more suitable for rural power grids and frequent operation of the place.

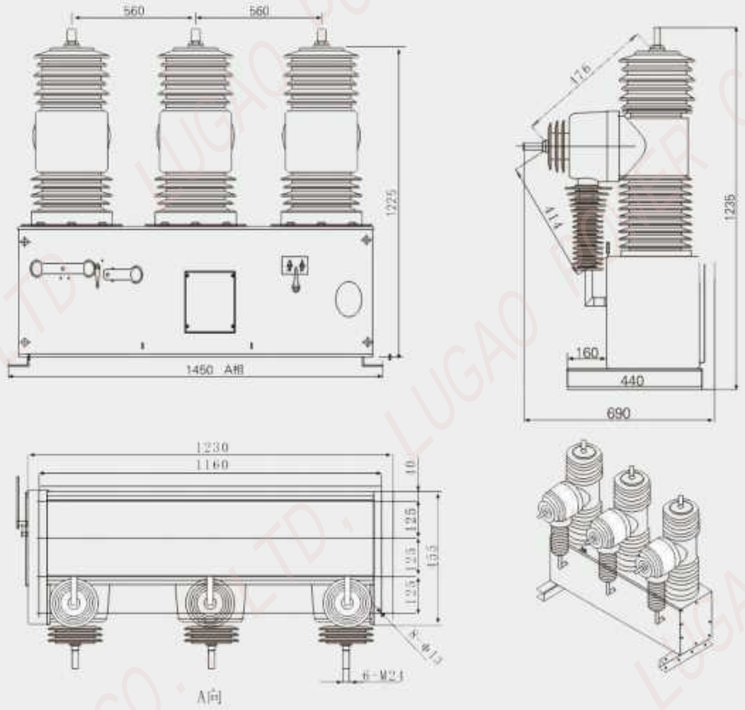
Model and meaning

Z W 32 - 40.5 / T □ □

- Rated short-circuit breaking current
- Rated current
- Spring actuator
- Rated voltage
- Design number
- Outdoor
- Vacuum Circuit Breaker

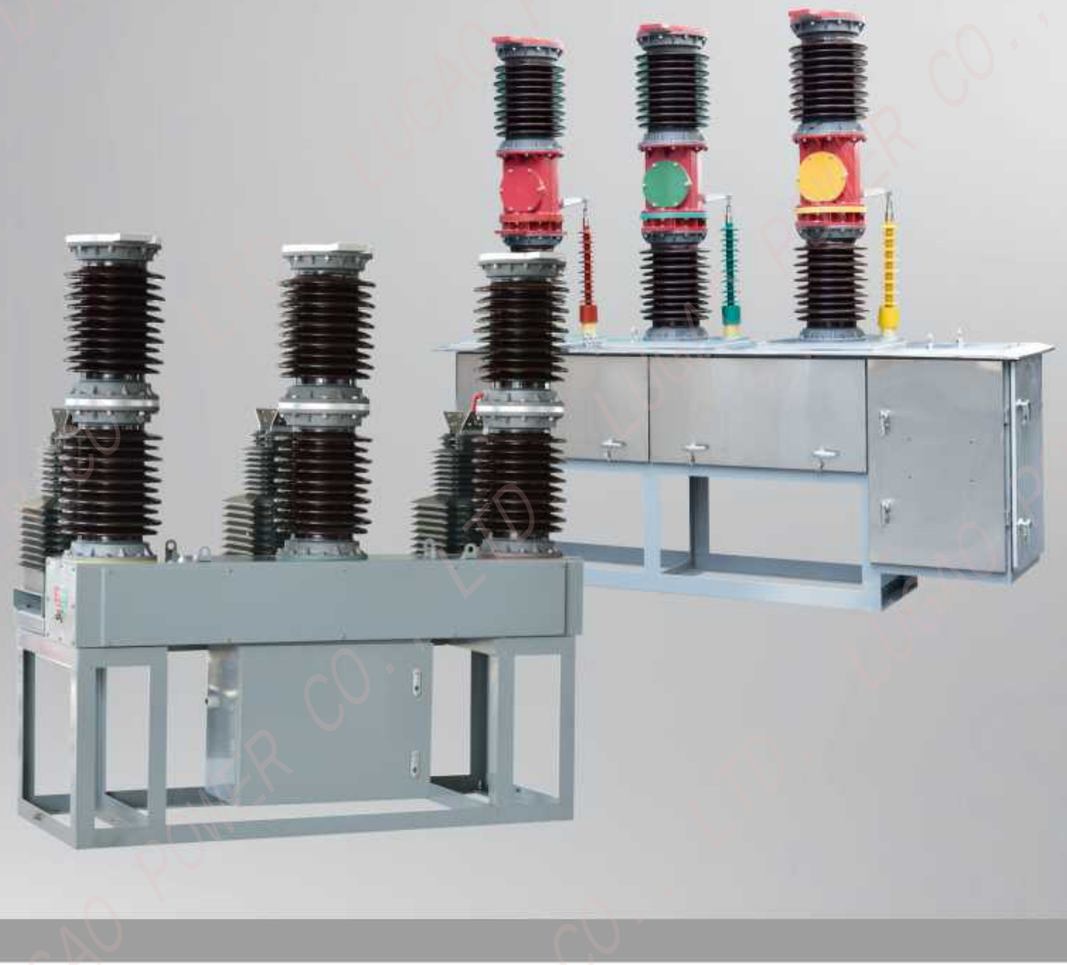
NO	Item		Unit	Data
1	Rated Voltage		KV	24
2	Rated Frequency		Hz	50
3	Rated current		A	630/1250/1600
4	Rated short-circuit breaking current		KA	20/25/31.5
5	Rated peak withstand current (peak)		KA	50/63/80
6	Rated short time withstand current/duration		KA/S	25/4
7	Rated short-circuit closing current (peak)		kA	50/63/80
8	Rated operating sequence			0-0.3s-CO-180s-CO
9	Mechanical life		times	10000
10	Rated current opening times		times	10000
11	Rated short-circuit breaking current breaking times		times	20
12	1 min frequency withstand voltage	(Wet) phase-to-phase, ground/breaking	KA	50/65
		(Dry) phase-to-phase, ground/breaking	KA	65/79
13	Lightning impulse withstand voltage (peak) phase to phase, ground/breaking		KA	125/145
14	Secondary circuit 1min frequency withstand voltage		V	2000
15	Weight		KG	115

Appearance And Installation Dimensions



ZW7-40.5/35KV
Outdoor vacuum circuit breaker

LUGAO



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

overview

ZW7 -40.5/35kV series outdoor high-voltage vacuum circuit breakers (hereinafter referred to as "circuit breakers") are used in three-phase power systems with AC 50Hz and rated voltage of 40.5KV, as the split, combined load current, overload current and short-circuit current.

Model and meaning

Z W 7 - 40.5 / □ - □

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

Normal use conditions

Ambient air temperature: upper limit +409C, lower limit -30° C (general area), -40C (alpine area);
Altitude: ≤ 1000m (if the altitude increases, the rated insulation level will increase accordingly);
Wind pressure: no more than 700Pa (equivalent to wind speed of 34m/s);
Earthquake intensity: no more than 8 degrees;
Dirty level: IV;
Maximum daily temperature difference: no more than 25° C.

Main mechanical parameters

Project	Unit	Data
Arc interrupter contact distance		22±2
Interrupter contact overtravel	mm	5±1
Phase center distance		710
Arc interrupter contact closing bounce time	ms	≤ 5
Three-phase opening and closing of different periods		≤ 2
Average closing speed	m/s	0.75± 0.2
Average opening speed		1.7± 0.2
Closing time	ms	30-100
Opening time	A	15-60
Main circuit resistance per phase (excluding current transformers)	μΩ	≤ 100
The allowable wear thickness of the dynamic and static contacts of the vacuum interrupter	mm	3

The main technical parameters

Project			Unit	Data
Rated voltage				40.5
Rated insulation level	1min power frequency withstand voltage lightning impulse withstand voltage (peak value)	Dry test Wet test	KA	95 80 185
Rated current			A	630 1250 1600 2000
Rated short-circuit breaking current			KA	20 25 31.5
Nominal Operation Sequence				Min-0.3s HeFen-180s HeFen
Rated short-circuit breaking current times			Second-rate	12
Rated short-circuit making current (peak value)			KA	50 63 80
Rated peak withstand current			KA	
Rated short-time withstand current			KA	20 25 31.5
Rated short circuit duration			s	4
Contact Spacing			mm	22±2
Contact overtravel			mm	4±1
Average opening speed			m/s	1.5±0.2
Average closing speed			m/s	0.7 ±0.2
Contact closing bounce time			ms	≤ 2
Synchronous time difference of three-phase station (sub) gate			ms	≤ 2
Closing time			ms	≤ 150
Opening time			ms	≤ 60
Mechanical life			Second-rate	10000
Rated operating voltage Summer auxiliary circuit rated voltage			V	DC110/220 AC110/220
DC resistance of each phase loop (without transformer)			μΩ	≤ 100
Reset			kg	800

Appearance and installation dimensions

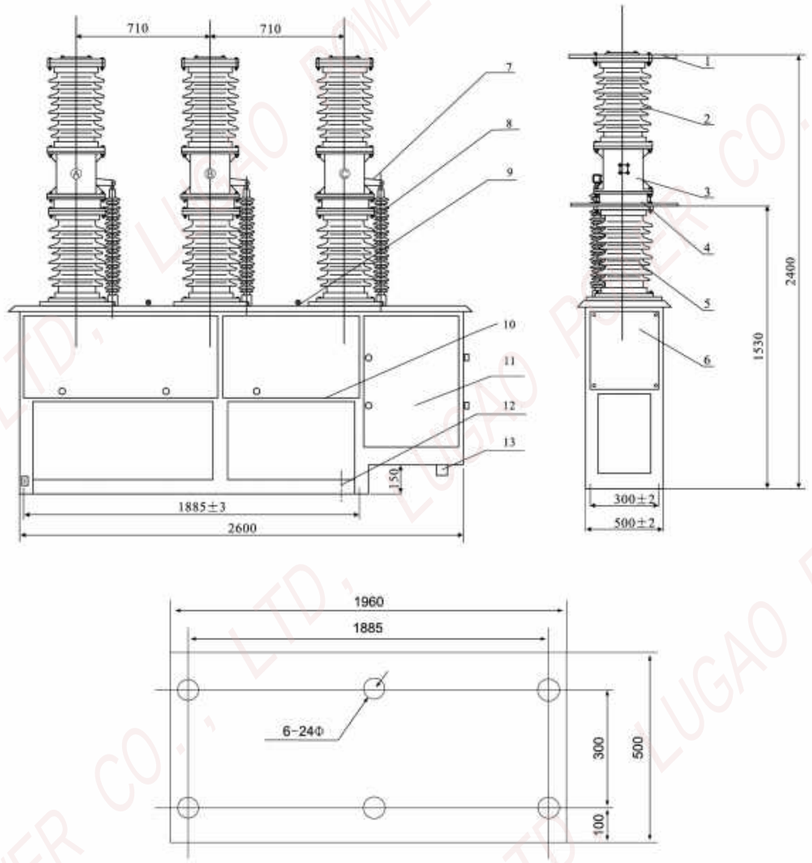


Figure 1 Dimensions of the side-mounted type of ZW7-40.5 vacuum circuit breaker

1. Upper outlet terminal
2. Vacuum interrupter
3. Hand hole cover
4. Lower outlet terminal
5. Pillar porcelain bottle
6. Control box
7. Swivel arm
8. Operating insulating rod
9. Lifting ring screw
10. Current transformer
11. Control box
12. Mounting bracket
13. Grounding bolt

LW8-40.5

Outdoor high-voltage sulfur hexafluoride circuit breaker (tank type)

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Overview

LW8-40.5 series sulfur hexafluoride circuit breakers are threephase AC 50Hz outdoor high voltage electrical equipment, applicable to 40.5 kV transmission and distribution system controlling and protection, also for contacting circuit breaker and open-close capacitor bank. Product breaking performance is excellent, using compressed air interrupter, long electrical life, at rated voltage 40 kV short-circuit current continuous on-off up to 21 times without maintenance; Two current transformers per unit, for users choosing. The product adopts a new MKZ SF6 pointer density meter, pressure gauge readings are not affected by temperature changes, easy to use. CT14 spring mechanism is used in this product.

The circuit breaker contains floor tank type and porcelain column type. Porcelain column type has two kinds of arrangement,parallel arrangement and elevated T frame (middle type) arrangement.

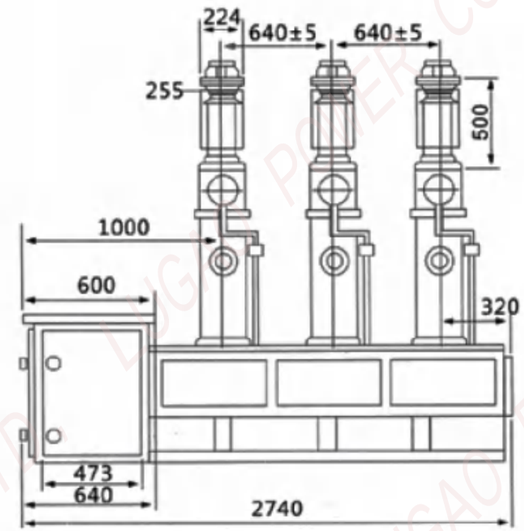
Working Environment

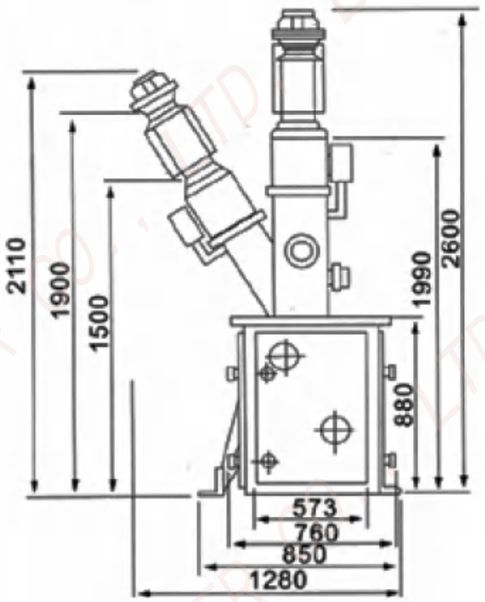
1. (The altitude): 1000m; 2000m; 3000m;
2. (The environment temperature): -30℃ ~+40℃
3. (Pollution level): II、III、IV

Main Technical Parameters

No.	Item		Unit	Data	
1	Rated voltage		kV	40.5	
	Rated insulation level	Lightning impact withstand voltage (full crest value)	kV	185	
		Power frequency withstand voltage (1min)	kV	95	
2	Rated current		A	1600 2000	
3	Mechanical life		time	3000	
4	Rated pressure of sulphur hexafluoride gas (gauge pressure at 20℃)		MPA	0.50	
5	Alarm pressure/minimum functional pressure (gauge pressure at 20℃)		MPA	0.47/0.45	
6	Rated short circuit switching current		kA	25	31.5
7	Rated short-circuit closing current (peak)		KA	63	80
8	Rated Short-Time withstand current (thermal stable current)		kA	25	31.5
9	Rated Short-Time withstand current (thermal stable current)		kA	60	80
10	Rated short circuit switching current		kA	63	8
11	The cumulative number of switching times under rated short-circuit switching		Times	15	10
12	Rated short circuit duration		S	4	
13	Closing time (at rated operating voltage)		S	⩽ 0.1	
14	Switching time (at rated operating voltage)		S	⩽ 0.06	
15	Rated order of operation			C-0.3s-CO-180s-CO	
16	Rated opening and closing monomial capacitor bank current		A	400	
17	In leakage		% years	⩽ 1	
18	Water content of sulfur hexafluoride gas (V/V)			⩽ 150×10-9	
19	CT14 spring operating mechanism with rated operating voltage				
		Closing coil, opening coil voltage	V	(AC):220 380 (DC):48 110 220	
		Energy storage motor voltage	V	(AC):220 380 (DC):110 220	
20	Sulfur hexafluoride gas weight		KG	8	
21	Weight of circuit breaker (including operating mechanism)		KG	1400	

Shape and installation dimensions





Floor tank type parallel arrangement circuit breaker

LW36-40.5
Outdoor high-voltage sulfur hexafluoride circuit breaker



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

overview

LW36-40.5 series sulfur hexafluoride circuit breakers are threephase AC 50Hz outdoor high voltage electricalequipment, applicable to 40.5 kV transmission and distribution system controlling and protection, alsofor contacting circuit breaker and open-close capacitor bank. Product breaking performance is excellent, using compressed air interrupter, long electrical life, at rated voltage 40 kV short-circuit current continuous on-off up to 21 times without maintenance; Two current transformers per unit, for users choosing. The product adopts a new MKZ SF6 pointer density meter, pressure gauge readings are not affected by temperature changes, easy to use.CT14 spring mechanism is used in this product.The circuit breaker contains floor tank type and porcelain column type. Porcelain column type has two kinds of arrangement,parallel arrangement and elevated T frame (middle type) arrangement.

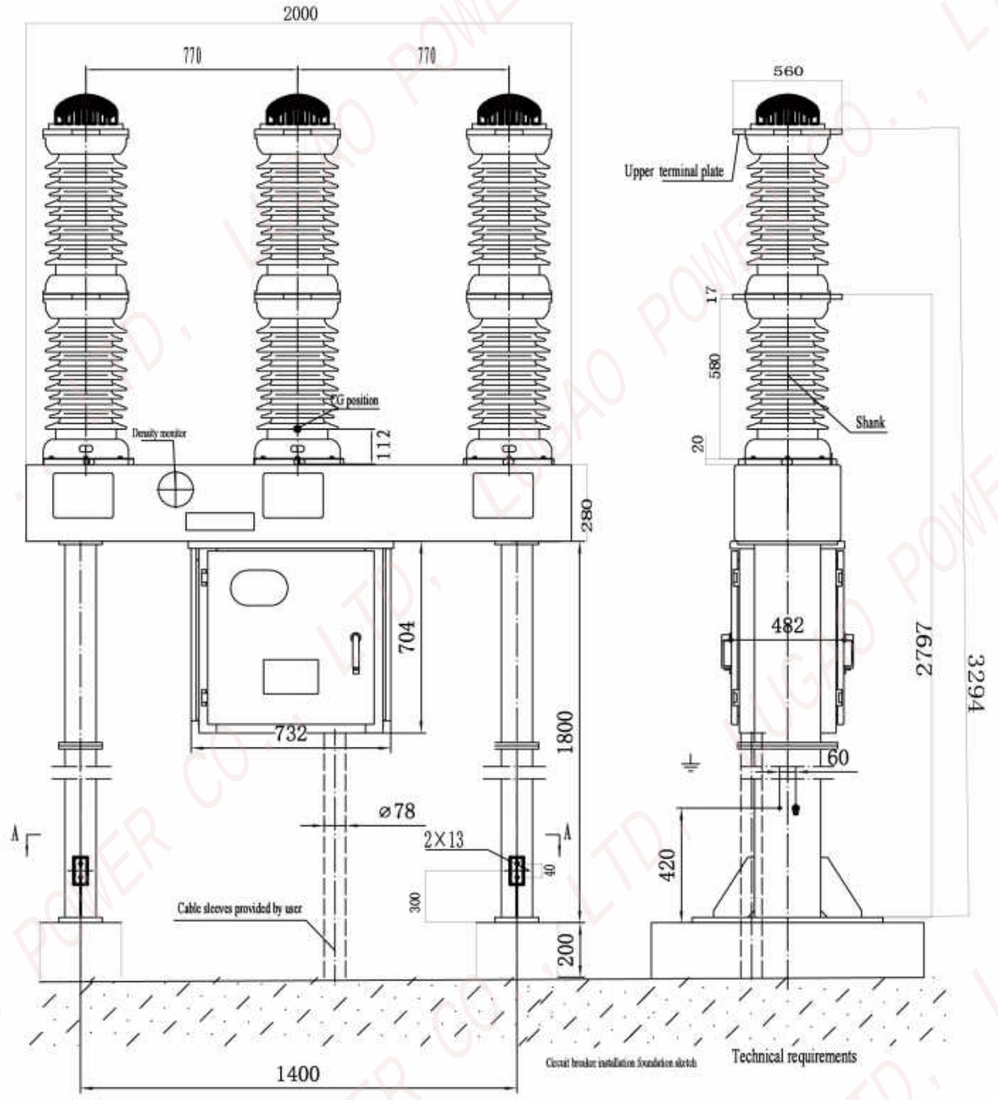
Working Environment

1. (The altitude)：1000m；2000m；3000m；
2. (The environment temperature)：~30℃ +40℃
3. (Pollution level)：II、III、IV

Main Technical Parameters

No.	Item		Unit	Data	
1	Rated voltage		kV	40.5	
	Ratedin sulation level	Lightning impact withstand voltage (full crest value)	kV	185	
		Power frequency withstand voltage (1min)	kV	95	
2	Rated current		A	1600	2000
3	Mechanical life		time	3000	
4	Rated pressure of sulphur hexafluoride gas (gauge pressure at 20℃)		MPA	0.50	
5	Alarm pressure/minimum functional pressure (gauge pressure at 20℃)		MPA	0.47/0.45	
6	Rated short circuit switching current		kA	25	31.5
7	Rated short-circuit closing current (peak)		KA	63	80
8	Rated Short-Time withstand current (thermal stable current)		kA	25	31.5
9	Rated Short-Time withstand current (thermal stable current)		kA	60	80
10	Rated short circuit switching current		kA	63	8
11	The cumulative number of switching times under rated short-circuit switching		Times	15	10
12	Rated short circuit duration		S	4	
13	Closing time (at rated operating voltage)		S	⩽ 0.1	
14	Switching time (at rated operating voltage)		S	⩽ 0.06	
15	Rated order of operation			C-0.3s-CO-180s-CO	
16	Rated opening and closing monomial capacitor bank current		A	400	
17	In leakage		% years	⩽ 1	
18	Water content of sulfur hexafluoride gas (V/V)			⩽ 150×10-9	
19	CT14 spring operating mechanism with rated operating voltage				
	Closing coil, opening coil voltage		V	(AC):220 380 (DC):48 110 220	
	Energy storage motor voltage		V	(AC):220 380 (DC):110 220	
20	Sulfur hexafluoride gas weight		KG	8	
21	Weight of circuit breaker (including operating mechanism)		KG	1400	

Appearance And Installation Dimensions



LW36-72.5
Ceramic Column High Voltage AC SF6 Circuit Breaker

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overview

The LW36-72.5 porcelain column high-voltage AC sulfur hexafluoride circuit breaker is equipped with a CT20 spring operating mechanism, which adopts the self energy arc extinguishing principle and a single break structure. The three poles of each circuit breaker are mounted on a frame and achieve three-phase mechanical linkage through a transmission mechanism. Electronic control can achieve remote and local operation.

Main Technical Parameters

Serial Number	name	unit	LW36-72.5
1	rated voltage	kV	72.5
2	Rated current	A	1250 3150
3	Rated short circuit breaking current	kA	31.5
4	Rated short-time withstand current	kA	31.5(4s)
5	Rated peak withstand current	kA	80
6	rated lightning impulse withstand voltage	kV	fracture surface 350+60to ground 350
7	Rated 1-minute power frequency withstand voltage	kV	fracture surface 160+42to ground 160
8	Institution model		CT20 Spring Operating Mechanism

Product Application

The LW36-72.5 porcelain column high-voltage AC sulfur hexafluoride circuit breaker has reliable performance, stable operation, and three pole mechanical linkage operation, which can meet the requirements of various environmental conditions in China.

Product performance characteristics

1. Excellent breaking performance
2. Longer electrical lifespan
3. Reliable insulation performance
4. Longer mechanical lifespan
5. Safe and reliable operation with minimal maintenance workload

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LW36-72.5
Ceramic Column High Voltage AC SF6 Circuit Breaker

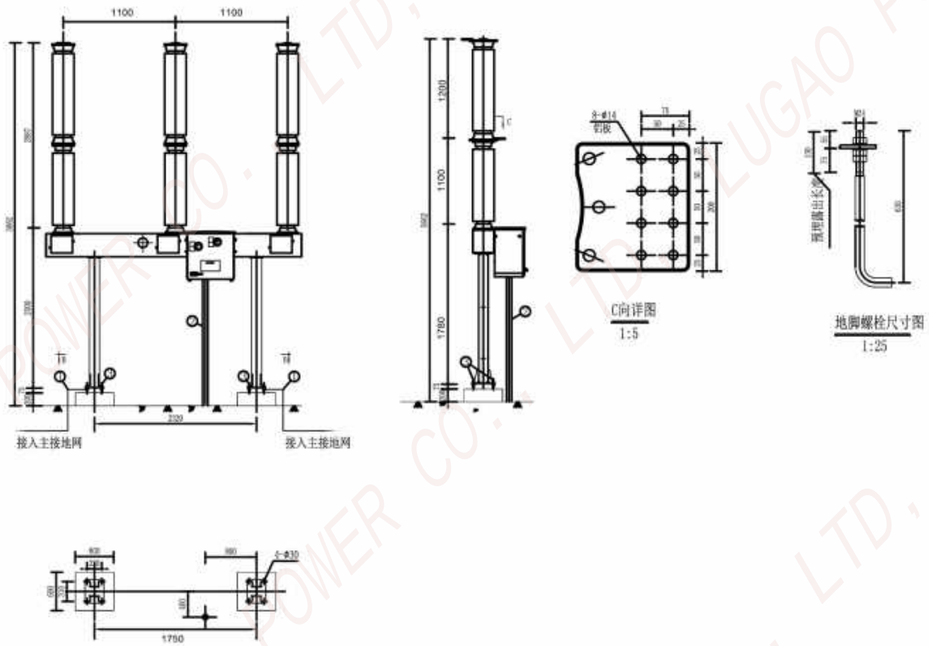
Main Technical Parameters

Serial Number			unit	LW36-72.5	LW25-126/145	LW25-252	LW15B-252/ LW15-252
rated voltage			kV	66	126/145	252	252
Rated frequency			Hz	50	50	50	50
Rated current			A	1250,3150,4000	2000,3150	4000	3150,4000
Rated breaking current			kA	25,31.5	40/31.5	40	50
Rated closing current			kA	80	100/80	100	125
Rated short-time withstand current and duration			kA	31.5(4s)	40(4s)/31.5(4s)	40(4s)	50(4s)
Rated peak withstand current			kA	80	100/80	100	125
short line fault breaking current			kA	le×90% le×75%			
Rated out of step breaking current			kA	le×25%			
specific creepage distance			cm/kV	3.1	2.5, 3.1		
1-minute power frequency withstand voltage	Dry test	fracture surface	kV	160+42	315	395+145	
		to ground	kV	160	275	460	
		interpolar	kV	160	275	---	
	Wet test	fracture surface	kV	160+42	275	395+145	
		to ground	kV	160	275	460	
			kV	160	275	---	
rated lightning impulse withstand voltage		fracture surface	kV	410	650/750	950+206	
		to ground	kV	350	550/650	1050	
		interpolar	kV	350	550/650	---	
5-minute zero gauge voltage power frequency withstand voltage			kV	84	95/124	189	189
close time			ms	⩽ 150	⩽ 150	⩽ 110	⩽ 100
Opening time			ms	⩽ 30	⩽ 30 (reclosing two open ⩽ 35)	⩽ 30	⩽ 25
Break time			ms	⩽ 60	⩽ 60	⩽ 60	⩽ 60
Split time			ms	40-60	40-60	50-70	40-60
Operate between different periods of time		divide	ms	⩽ 2	⩽ 2	⩽ 2	⩽ 2
		close	ms	⩽ 4			
Rated reclosing operation cycle				Min-0.3s-Hefen-180s-HefenO-0.3s-CO-180s-CO			
Gas rated pressure			MPa	0.5;0.4	0.5	0.6	0.6
SF6 gas alarm/lockout pressure			MPa	0.45/0.40,0.35/0.30	0.45/0.40	0.55/0.50	0.55/0.50

Main Technical Parameters

name	unit	LW36-72.5	LW25-126/145	LW25-252	LW15B-252/LW15-252
Annual SF6 gas leakage rate	%	⩽ 0.5	1 ⩽ 0.5	⩽ 0.5	⩽ 0.5
Number of fracture surfaces per pole	individual	1	1	1	1
mechanical life	order	3000	3000	3000	3000
Horizontal and vertical tension of wiring terminals	N	790	1250	1500	1500
Horizontal transverse tension of wiring terminals	N	750	750	1000	1000
Vertical tension of the terminal	N	750	1000	1250	1250
Main circuit resistance	μΩ	⩽ 50	⩽ 45	⩽ 45	⩽ 42
Supporting organization		Spring operating mechanism	Spring operating mechanism	Spring mechanism or hydraulic mechanism	Hydraulic or pneumatic mechanism
Weight of SF6 gas filled into each circuit breaker	kg	4	6	30	30
Weight of each circuit breaker	kg	1000	1400	3500	4000/4500
Compliant with standards	GB/T1984.IEC60056				

Outline and Installation Diagram



LW36-126
Outdoor High Voltage AC SF6 Circuit Breaker

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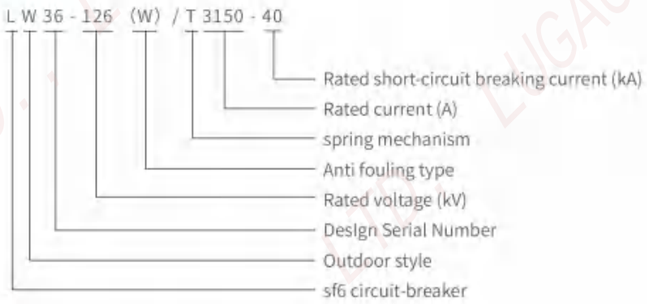
Respecting promise and keeping promise, operating in the right way, striving for perfection, coexistence and win-win situation

overview

The LW36-126/3150-40 self powered AC high-voltage sulfur hexafluoride circuit breaker is an outdoor product suitable for use in power grids with an altitude of no more than 3000 meters, an ambient temperature of no less than -40 ℃ , a pollution level of no more than IV, and an AC frequency of 50Hz, with a maximum voltage of 145kV. It is used to cut off rated current, fault current or conversion lines, achieve control and protection of the power system, and can also be used as a contact circuit breaker.

This product uses SF6 gas as the arc extinguishing and insulation medium, adopts international self energy arc extinguishing technology, and is equipped with a new type of spring operating mechanism. It has the characteristics of long electrical life, low operating power, low noise, and high reliability. Its structure is simple, small in size, and has a long maintenance cycle. It is the most reliable product in high-altitude areas or 132kV power systems, and can replace imported products of the same type.

Model and meaning



Structural characteristics

The circuit breaker adopts a three-phase porcelain pillar single break structure, with a spring operated mechanism for the three phases arranged in the center and linked by the three phases, resulting in a novel and exquisite appearance. The circuit breaker uses SF6 gas as the insulation and arc extinguishing medium. During operation, the three poles of the circuit breaker are connected to SF6 gas, and a pointer type density relay is used to monitor its pressure and density. Due to the use of self powered arc extinguishing principle and optimized design in the circuit breaker motion system, the mechanical efficiency has been effectively improved and the operating power has been minimized to the greatest extent possible;

Excellent breaking performance and long electrical lifespan;

The installation chassis and support are made of high-quality steel plates that are bent as a whole, and the surface treatment is all hot-dip galvanized. All exposed fasteners are made of high-strength materials and hot-dip galvanized, or use stainless steel standard parts. The outer shell of the mechanism box is made of stainless steel material, so the product has excellent corrosion resistance;

High mechanical reliability, capable of frequent operation;

Due to the inherent high insulation strength of sulfur hexafluoride gas and the use of optimal contact movement in circuit breakers, there is no reignition of capacitive current during circuit breaker breaking;

The external insulation level is high, and the external insulation is designed with a large creepage distance. The creepage distance is ⩾ 31mm/kV, and the anti pollution performance is excellent. Can operate safely even in harsh environments;

Strong current carrying capacity: Conduct a temperature rise test at 1.2 times the rated current of 3150A, which is 3780A, and there is still a large margin of temperature rise at each point;

The overall appearance structure of the product is compact, easy to install and debug on site, and the maintenance workload is small.

The main technical parameters

Serial Number	name		unit	parameter
1	rated voltage		kV	LW36-126KV
2	insulation level		kV	See Table 2
3	Rated frequency		Hz	50
4	Rated current		A	3150
5	Rated short circuit breaking current		kA	40
6	Rated short-time withstand current		kA	40
7	Rated peak withstand current		kA	100
8	Rated short-circuit duration		s	3
9	Rated short-circuit closing current (peak)		kA	100
10	short line fault breaking current		kA	36/30
11	Rated line charging interruption current		A	31.5
12	Rated out of step breaking current		kA	10
13	Accumulated breaking times under rated short-circuit breaking current		order	20
14	First open pole factor			1.5
15	SF6 gas pressure (20 ℃)			0.5
16	Rated voltage of control circuit and auxiliary circuit power supply			DC220V DC110V
17	Rated operating sequence			Min-0.3s HeFen-180s HeFen
18	mechanical properties			See Table 5
19	Rated main circuit resistance		μΩ	⩽ 55
20	Mechanical durability of circuit breakers		order	10000
21	Static tensile force of wiring terminals	Horizontal and Vertical FshA	N	1250
		Horizontal and Horizontal FshB	N	750
		Vertical direction FtVm	N	1000
22	Annual SF6 gas leakage rate		%	⩽ 1
23	SF6 gas moisture content (V/V)		ppm	⩽ 150±4
24	contact travel		mm	150±4
25	Contact stroke of contacts		mm	25

Main mechanical parameters

insulation level

outside2

Serial Number	name		parameter
1	1-minute power frequency withstand voltage (effective value, dry test, wet test)	KV between fracture surfaces	230
		Inter pole or pole to ground kV	230
2	Lightning impulse withstand voltage (peak) (full wave 1.2/50 μ s)	KV between fracture surfaces	550
		Inter pole or pole to ground kV	550
3	When SF6 gas is at zero gauge pressure, 5-minute power frequency withstand voltage (effective value)	KV between fracture surfaces	95
			95
Note:	The parameters in numbers 1 and 2 are the insulation level at an altitude of 2000m.		

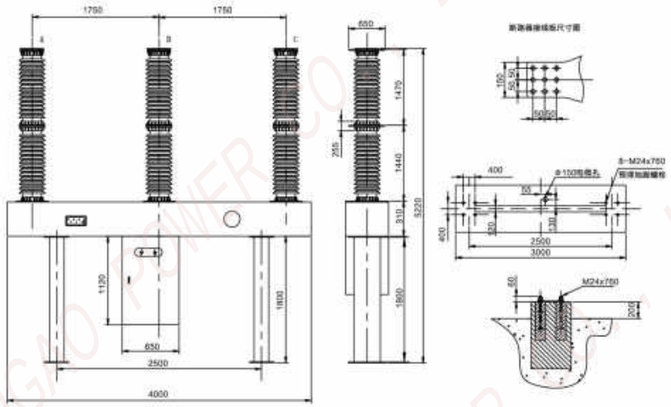
mechanical properties

outside3

Serial Number	name	unit	parameter
1	Upper and lower limits of opening time	ms	27±3
2	Upper and lower limits of closing time	ms	10020
3	Opening and closing time	ms	⩽ 300
4	Integration and division time	ms	⩽ 50
5	Synchronization of opening and closing	ms	⩽ 3
6	Synchronization of closing	ms	⩽ 5
7	Break time	ms	60
8	Opening speed (10ms after opening)	m/s	$3.9^{+0.7}_{-0.3}$
9	Closing speed (5ms before closing)	m/s	2.8±0.3

Outline and Installation Diagram

See the figure below
LW36-126 circuit breaker weight: 1800kg
Windward area: 5m2



LW36-252
Outdoor high-voltage sulfur hexafluoride circuit breaker (split type)

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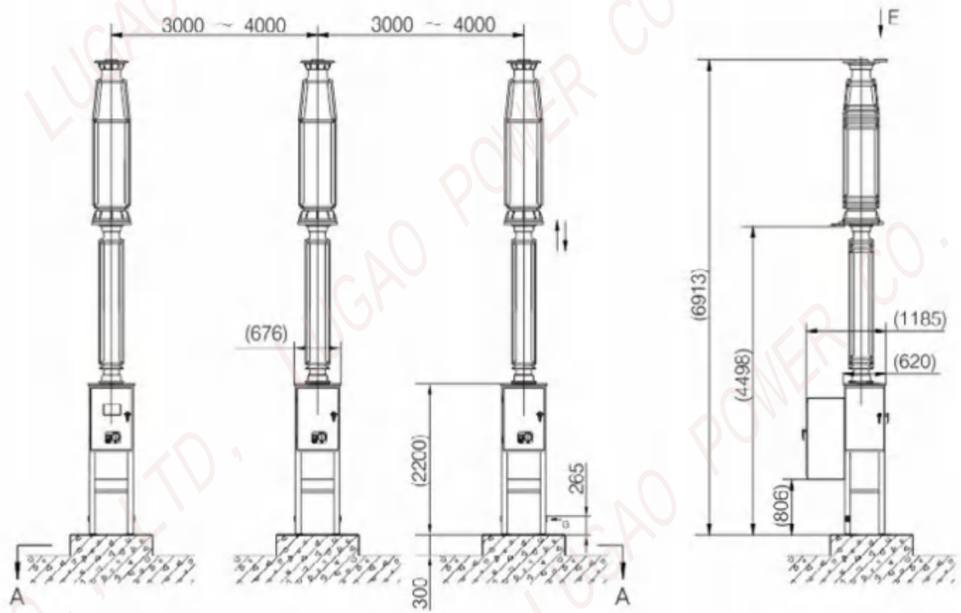
overview

LW □ -252/4000-50 self-energy AC high-voltage sulfur hexafluoride circuit breaker for outdoor products, applicable to altitude not exceeding 2000 m, ambient temperature not less than -30 ℃ , AC 50 Hz of the area where the pollution level is not higher than level IV, in the grid with a maximum voltage of 252kV, to cut off rated current , faulty current, or switching lines, to control and protect the power system, can also be used as a contact circuit breaker. SF6 gas is used as an arc extinguishing and insulating medium, using the most advanced self- powered arc extinguishing technology in the world. With a new spring operating mechanism, it has the characteristics of long life, low operation, low noise, high reliability. It's simple structure, small size, long period of free maintenance.In the current process of power equipment becoming oil- free and large capacity, it can completely replace the same type of imported products.

Main Technical Parameters

No.	Item		Unit	Data
1	Rated voltage			252
2	Rated power frequency withstand voltage(1min)	To earth	kV	460
		Fracture		460+146
3	Rated lightning impulse withstand voltage	To earth		1050
		Fracture		1050+206
4	Rated frequency		Hz	50
5	Rated current		A	4000
6	First-pole-to-clear factor			1.3
7	Rated short-circuit breaking current		kA	50
8	Rated short circuit closing current (peak)		kA	125
9	Rated short circuit withstand current		kA	50
10	Rated peak withstand current			125
11	Rated short circuit duration		s	3
12	Rated out-of-step breaking current		kA	12.5
13	Near fault breaking current		kA	90%Ik,75%Ik
14	Rated line charging opening and closing current		A	200
15	Rated operation sequence			0-0.3s-CO-180s-CO
16	Main circuit resistance		μΩ	⩽ 55
17	Rated sulfur hexafluoride gas pressure (20℃ gauge pressure)		Mpa	0.6
18	Alarm/minimum functional pressure (20℃ gauge pressure)		Mpa	0.55±0.015/0.50±0.015
19	Annual air leakage rate of SF6 gases			⩽ 0.5%
20	Gas moisture content (V/V)		ppm	⩽ 150
21	Mechanical life			6000
22	Radio interference level		μV	< 500
23	Creepage distance	Fracture	mm	⩾ 8660
		To earth		⩾ 6900
24	Weight of SF6 gas per unit		kg	24
25	Weight of circuit breakers per phase		kg	1500

Outline and Installation Diagram



LW36-252

Outdoor high-voltage sulfur hexafluoride circuit breaker integrated (conjoined)



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

overview

LW □ -252/4000-50 self-energy AC high-voltage sulfur hexafluoride circuit breaker for outdoor products, applicable to altitude not exceeding 2000 m, ambient temperature not less than-30℃ , AC 50 Hz of the area where the pollution level is not higher than level IV, in the grid with a maximum voltage of 252kV, to cut off rated current , faulty current, or switching lines, to control and protect the power system, can also be used as a contact circuit breaker. SF6 gas is used as an arc extinguishing and insulating medium, using the most advanced self- powered arc extinguishing technology in the world. With a new spring operating mechanism, it has the characteristics of long life, low operation, low noise, high reliability. It's simple structure, small size, long period of free maintenance.In the current process of power equipment becoming oil- free and large capacity, it can completely replace the same type of imported products.

Meaning of type

L W 36 - 252 (W) / T 4000 - 50

- 4000 - 50 — Rated short-circuit breaking current(kA)
- T — Rated current(A)
- (W) — Springmechanism
- / — Dirtiness resistance
- 252 — Rated voltage(kV)
- 36 — Design No.
- W — Outdoor type
- L — SF6 breaker

Characteristic of structure

The circuit breaker introduces the three-phase porcelain-pole with single interrupter structure. A spring operating mechanism is suppled and the mechanical action of the three-phase is inner connected. The gas of the SF6 is connected in the three-phase pole parts. A density controller with temperature compensation is used to monitor the gas of the SF6. Because of the self-extinction arc control principle and optimized design, it improves the efficiency of mechanism and reduces the operating power.

Excellent breaking performance and long electrical life.

High mechanism reliability and can be operated frequently. Because of the high insulation intensity and excellent contact movement, the breaking capacity current will not re-burn.

The circuit breaker has high outer insulation level and ratio creepage distance is greater than, so it has excellent performance of resisting the filth and the earthquake, it is also can be operated safely under the environment with atrocious weather. High carrying ability: it has high capability margin as the temperature of each contact rises when it is under temperature rise test in the circuit(1.2timesof4000A).

The appearance of the breaker is compact, and the installation and debugging is very easy. The maintenance is also very convenient.

Main Technical Parameters

No	name		unit	Data
1	rated voltage		kV	252
2	Rated power frequencywithstand voltage(1min)	To earth	kV	460
		Between interrupter		460+146
3	Rated lightning impulsewithstand voltage	To earth		1050
		Between interrupter		1050+206
4	Rated frequency		HZ	50
5	Rated current		A	4000
6	Amplitude factor			1.3
7	Rated Shor-circuit breaking current		kA	50
8	Rated short-circuit making current(peak)		kA	125
9	Rated short-circuit with stand current		kA	50
10	Rated peak value withstand current		kA	125
11	Rated short-circuit duration		S	3
12	Rated out-of-phase breaking current		kA	12.5
13	Breaking current of close-in fault		kA	90%Ik,75%Ik
14	Rated line-charging breaking current		A	200
15	Operating sequence			o-0.3s-Co-180s-CO
16	Resistance of the main circuit		μΩ	⩽ 55
17	Rated gauge pressure ofSF6(20℃)		Mpa	0.6
18	Minimum functional gauge pressure(20℃)		Mpa	0.55±0.015/0.50±0.015
19	Annual leakage rate ofSF6			⩽ 0.5%
20	Amount of water ofSF6(V/V)		ppm	⩽ 150
21	Mechanical life		time	10000
22	Electrical level of radio interference		μv	<500
23	Creepage distance	Between interrupter	mm	⩾ 8660
		To earth		⩾ 6900
24	Each filled with SF6 gas weight		kg	24
25	Weight per breaker		kg	1500

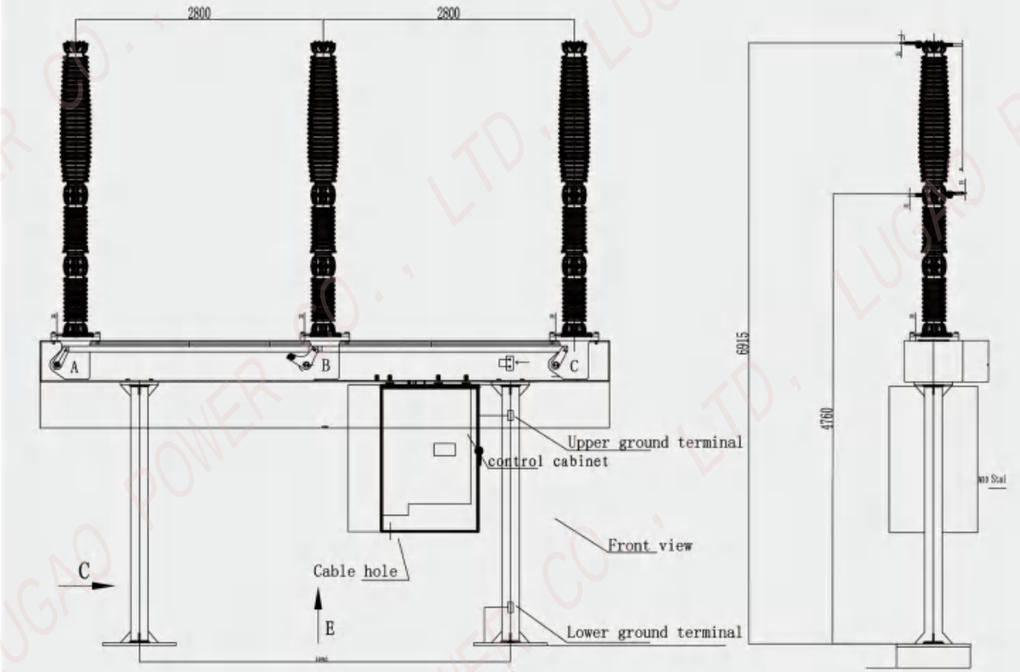
Main technical data of structure

NO	name		unit	Value
1	Auxiliary circuit voltage		V	DC220V、AC220V
2	The voltage/current of the opening and closing coils		V/A	DC110/4;DC220/2.5
3	Energy storage motor	Rated voltage	V	DC220V、AC220V
		The range of normal working voltage	V	85%-110%
		Power	W	600
4	The energy storage time of motor		S	⩽ 15
5	The loop voltage of the heater and the lamp		V	AC220V
6	Rated voltage of the auxiliary switch		V	DC220V、AC220V
7	Rated current of the auxiliary switch		A	1 0
8	Contacts of the auxiliary switches			10 normal opened contacts and 10 normal closed contacts

Mechnical adjustment of the breaker

NO	name	unit	Value
1	Center distance between poles	mm	3000-4000
2	Strode length of the moving contact	mm	160±3
3	Contact stroke length of the moving contact	mm	50±2
4	Switch-off time	mm	30±5
5	Switch-on time	m/s	90±15
6	Break time	m/s	⩽ 60
7	Switch-on/off time	ms	⩽ 80
8	Switch-off/on time	ms	300
9	The time difference of the opening of three phases	ms	⩽ 3
10	The time difference of the closing of three phases	ms	⩽ 5

Outline and Installation Diagram



ZCW □ -72.5 (126.5)/L
Open Type Combination Appliances



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

overview

ZCW □ -72.5 (126.5)/L Open Type Combination Appliances electrical apparatus is a complete set of combination electrical apparatus that uses air as the external insulation SF6 gas as the arc extinguishing medium. The control and protection of 72.5KV transmission and distribution systems for three-phase AC can also be used for connecting circuit breakers and opening and closing capacitor banks. Suitable for urban substations, enterprise substations, and mountainous substations with tight land use.

Model and meaning

ZC W □ - T 72.5 3150 - 40

- 40 — Rated short-circuit breaking current (kA)
- 3150 — Rated current (A)
- T — Spring operating mechanism
- 72.5 — Rated voltage (kV)
- □ — Design Serial Number
- W — Outdoor style
- ZC — sf6 circuit-breaker

Structural characteristics

Organically combine circuit breakers, isolating switches, grounding switches, current transformers, busbars, and other components on a grounded steel structure bracket, resulting in a compact structure.

It occupies only 30% -50% of the space of the split type, and has significant characteristics such as saving land and reducing project costs.

The entire interval is prefabricated in the factory, assembled and debugged before leaving the factory, and transported to the installation site as a whole, greatly shortening the installation cycle.

Adopting fully validated high-performance arc extinguishing chambers and isolating switches, with minimal maintenance and high reliability.

The self-supporting busbar prefabricated in the partition factory does not require users to repair the structure.

Flexible layout and can be used for various wiring methods.

The circuit breaker can be lowered for maintenance or replacement as a whole, and the power outage time can be shortened to at least 3 hours due to body failure.

Main Technical Parameters

Main technical parameters of circuit breaker

Serial Number	name		unit	parameter
1	rated voltage			72.5
2	Rated power frequency withstand voltage (1min)	to ground	kV	K・160
		Between fracture surfaces		K・200
3	Rated lightning impulse Strike withstand voltage	to ground		K・350
		Between fracture surfaces		K・410
4	Power frequency withstand voltage of SF6 gas at zero gauge pressure (5 minutes)			K・84
5	Rated frequency		Hz	50
6	Rated current		A	3150
7	First level coefficient			1.5
8	Rated short circuit breaking current			31.5
9	Rated short-circuit closing current (peak)		kA	80
10	Rated short-circuit withstand current			31.5
11	Rated peak withstand current			80
12	Rated short-circuit duration		s	4
13	Rated out of step breaking current		kA	8
14	short line fault breaking current		kA	90%Ik,75%Ik
15	Rated line charging switching current		A	10
16	Rated operating sequence		μΩ	O-0.3s-CO-180s-CO
17	Main circuit resistance		μΩ	O-0.3s-CO180s-CO
18	Rated sulfur hexafluoride gas pressure (20 °C gauge pressure)		Mpa	0.5
19	Alarm/minimum functional pressure (20 °C gauge pressure)		Mpa	0.45±0.03
20	Annual SF6 gas leakage rate			<0.5%
21	Gas moisture content (V/V)			$\leqslant 150\times10^{-6}$
22	mechanical life		order	10000
23	Radio interference frequency		μV	⩽ 500
24	creepage	between open contacts	mm	2585
		to ground		2248
25	Weight of each unit filled with SF6 gas		kg	10
26	Weight of each circuit breaker		kg	1300

Main Technical Parameters

Serial Number	name		unit	parameter
1	Auxiliary circuit voltage		V	DC220 DC110
2	Voltage/current of opening and closing coils		V/A	DC110/4;DC220/2
3	Energy storage motor	rated voltage	V	DC220、AC220/DC110、AC110
		Normal operating voltage range	V	85%~110%
		power	W	600
4	Energy storage time of electric motor		s	⩽ 15
5	Heater and lighting circuit voltage		V	AC220V
6	Rated voltage of auxiliary switch		V	DC220V、AC220V
7	Rated current of auxiliary switch		A	10
8	Number of auxiliary switch connections			10 normally open+10 normally closed

The mechanical adjustment of the product is shown in the table below

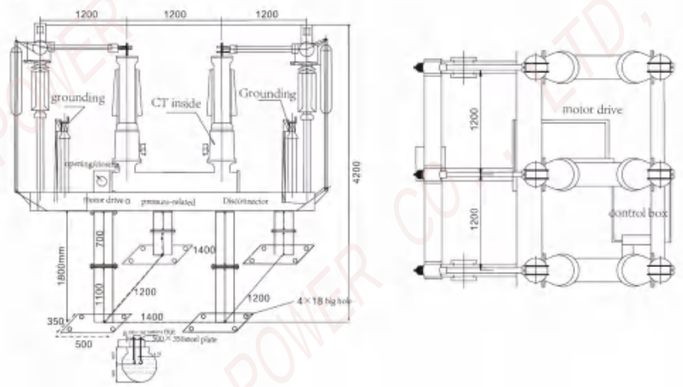
Serial Number	name	unit	parameter
1	Center distance between circuit breaker poles	mm	1200
2	Moving contact stroke	mm	120 $^{+3}_{0}$
3	Contact stroke of moving contact	mm	25 $^{+2}_{0}$
4	Circuit breaker interphase operation link stroke (chord length)	mm	110 $^{+3}_{0}$
5	opening speed	m/s	4.2-5m/s
6	closing speed	m/s	2.2-3m/s
7	Opening time	ms	⩽ 40
8	close time	ms	⩽ 100
9	Break time	ms	⩽ 60
10	Combination and division time	ms	⩽ 80
11	Opening and closing time	ms	300
12	Three phase asynchronous disconnection	ms	⩽ 2
13	Three phase closing asynchrony	ms	⩽ 3

Outline and Installation Diagram

See the figure below

ZCW □ -72.5 (126.5)/L type open combination electrical appliance

Weight: 1500kg. Windward area: 4.5m2



ZN63(VS1)-12
Fixed/Handcart Indoor High Voltage Vacuum Circuit Breaker



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

overview

The ZN63 (VS1) -12 series indoor fixed/handcart type high-voltage vacuum circuit breaker is a three-phase AC 50Hz indoor switchgear with a rated voltage of 12kV. It can be used for control and protection of industrial and mining enterprises, power plants and substations, electrical facilities, and is suitable for frequent operation places. By integrating the operating mechanism with the circuit breaker body, it can be designed as a fixed installation unit or equipped with a dedicated propulsion mechanism to form a handcart unit for use. The main circuit can be equipped with integral fixed pole to achieve miniaturization, high reliability, and maintenance free of circuit breakers. It can be used with KYN28A-12 (GZS) and other mid mounted handcart type switchgear, and can also be used with XGN series fixed switchgear.

Model and meaning

Z N 63 - 12 □ / □ - □

- Rated short-circuit breaking current (KA)
- Rated current (A)
- Operating mechanism code, T is the spring operating mechanism
- Rated voltage (KV)
- Design Number
- indoor
- Vacuum circuit breaker

ormal condition

The ambient air temperature shall not exceed 40 ℃ , and the average value measured within 24 hours shall not exceed 35 ℃ , with a minimum ambient air temperature of -15 ℃ ;

Altitude: not exceeding 3000m;

The surrounding air is not significantly polluted by dust, smoke, corrosive, flammable gases, vapors, or salt spray;

Humidity conditions: The average relative humidity should not exceed 95%, the average monthly relative humidity should not exceed 90%, the average water vapor pressure should not exceed 2.2kPa, and the average monthly water vapor pressure should not exceed 1.8kPa;

Vibration or ground motion from outside the switchgear and control equipment can be ignored;

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

Product Technical Features

1. The overall performance of the circuit breaker is superior

The arc extinguishing chamber and operating mechanism of the circuit breaker are configured in a front to back manner and connected as a whole through a transmission mechanism.

The mechanical lifespan can reach up to 30000 cycles.

2. Advanced vacuum arc extinguishing chamber

Sealed ceramic vacuum arc extinguishing chamber.

The copper chromium contact material and longitudinal magnetic field contact structure are arc extinguishing methods.

3. Enhanced insulation cylinder

The insulation cylinder is formed using the APG new process.

Adding inner skirts and reinforcing ribs to the insulation cylinder improves the insulation level and resistance to dynamic stable current.

The vacuum arc extinguishing chamber is installed inside the insulation cylinder, effectively preventing damage and surface contamination caused by foreign objects, while significantly reducing the overall size of the circuit breaker.

4. Flexible and easy to operate functions

The operating mechanism adopts a spring energy storage type, which has two functions: electric and manual energy storage.

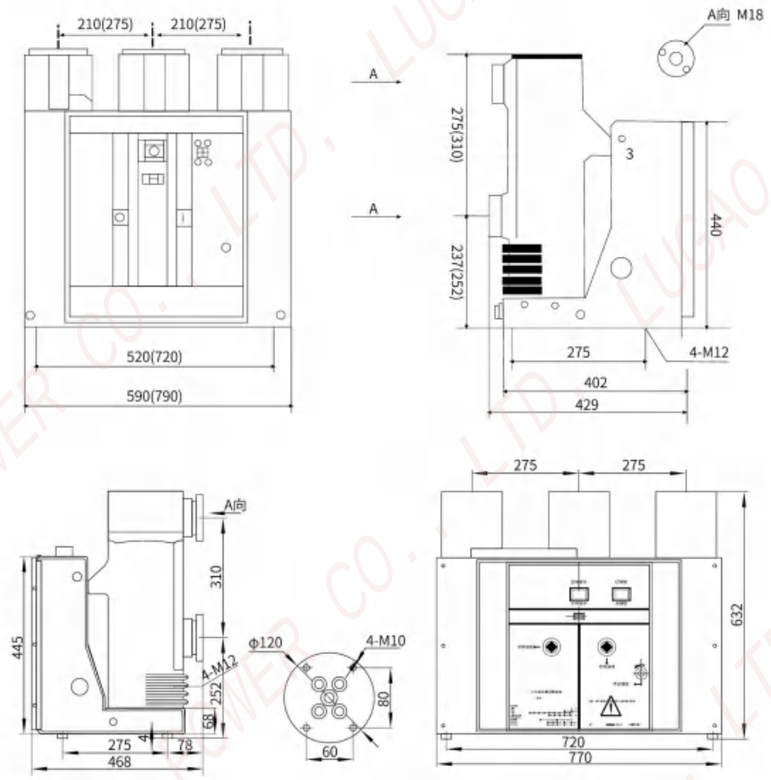
The energy stored in the energy storage spring during the operation of the circuit breaker is transmitted to the connecting rod mechanism through the output cam, and then transmitted to the moving contact part through the connecting rod mechanism.

Advanced and reasonable buffering device, no rebound when opening, reduces the impact and vibration of opening.

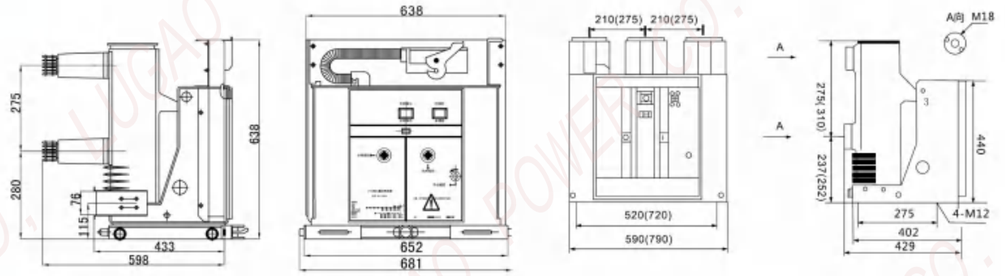
No need for adjustment, minimal or minimal maintenance.

Appearance and installation dimensions

The distance inside the parentheses is 275mm

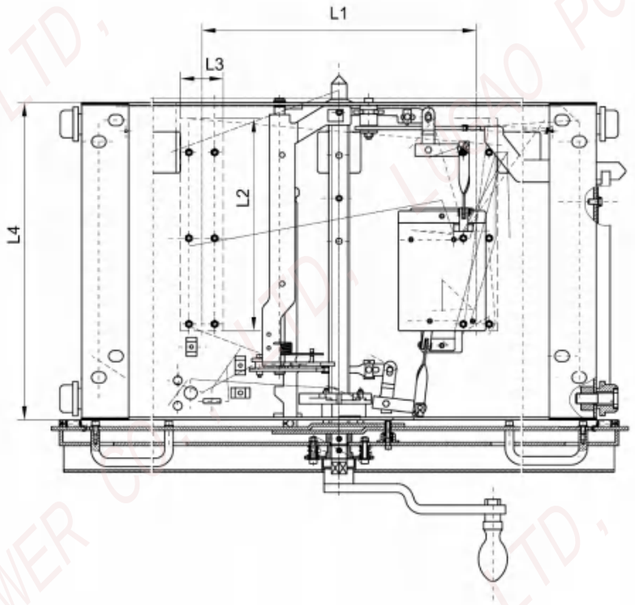


Appearance and installation dimensions



ZN63(VS1)-12/630~1600(800 cupboard)

Handcart grounding method



The standard grounding method for VS1 series handcart circuit breakers is friction grounding, as shown in the figure

	L1(mm)	L2(mm)	L3(mm)	L4(mm)
Cooperate with a 210mm phase spacing	320	294	45	370
Cooperate with a 275mm phase spacing	400	294	45	370

ZN63(VS1)-12
Indoor high-voltage side mounted vacuum circuit breaker



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

overview

The BM (VS1) -12 series indoor mounted high-voltage vacuum circuit breaker is an indoor high-voltage switchgear suitable for use in three-phase power systems with a rated voltage of 12kV and a frequency of 50Hz. It is used as a protective and control electrical device. Due to its special advantages, the vacuum circuit breaker is particularly suitable for places that require frequent operation under rated current or multiple short circuit current disconnections. The ZN63 (VS1) -12 series side mounted vacuum circuit breaker adopts a fixed installation and is mainly used for fixed switchgear. This circuit breaker can be used alone or for ring network power supply, box type transformers, or various non-standard power supply systems.

Model and meaning

Z N 63 - 12 □ / □ - □

- Rated short-circuit breaking current (KA)
- Rated current (A)
- Operating mechanism code, T is the spring operating mechanism
- Rated voltage (KV)
- Design Number
- indoor
- Vacuum circuit breaker

ormal condition

The ambient air temperature shall not exceed 40 ℃ , and the average value measured within 24 hours shall not exceed 35 ℃ , with a minimum ambient air temperature of -15 ℃ ;
Altitude: not exceeding 3000m;
The surrounding air is not significantly polluted by dust, smoke, corrosive, flammable gases, vapors, or salt spray;
Humidity conditions: The average relative humidity should not exceed 95%, the average monthly relative humidity should not exceed 90%, the average water vapor pressure should not exceed 2.2kPa, and the average monthly water vapor pressure should not exceed 1.8kPa;
Vibration or ground motion from outside the switchgear and control equipment can be ignored;
The amplitude of electromagnetic interference induced in the secondary system shall not exceed 1.6kV.

Product Technical Features

1. The overall performance of the circuit breaker is superior
The arc extinguishing chamber and operating mechanism of the circuit breaker are configured in a front to back manner and connected as a whole through a transmission mechanism.
The mechanical lifespan can reach up to 30000 cycles.
2. Advanced vacuum arc extinguishing chamber
Sealed ceramic vacuum arc extinguishing chamber.
The copper chromium contact material and longitudinal magnetic field contact structure are arc extinguishing methods.

3. Enhanced insulation cylinder

The insulation cylinder is formed using the APG new process.

Adding inner skirts and reinforcing ribs to the insulation cylinder improves the insulation level and resistance to dynamic stable current.

The vacuum arc extinguishing chamber is installed inside the insulation cylinder, effectively preventing damage and surface contamination caused by foreign objects, while significantly reducing the overall size of the circuit breaker.

4. Flexible and easy to operate functions

The operating mechanism adopts a spring energy storage type, which has two functions: electric and manual energy storage.

The energy stored in the energy storage spring during the operation of the circuit breaker is transmitted to the connecting rod mechanism through the output cam, and then transmitted to the moving contact part through the connecting rod mechanism.

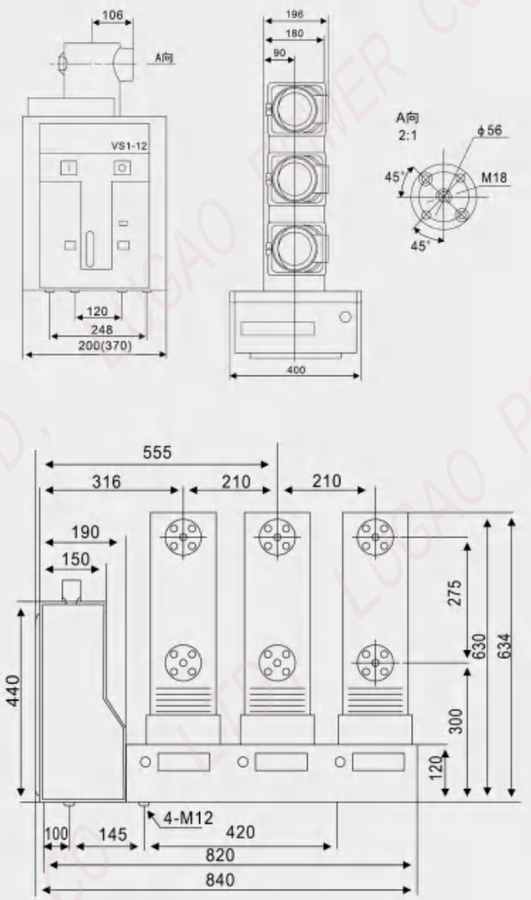
Advanced and reasonable buffering device, no rebound when opening, reduces the impact and vibration of opening.

No need for adjustment, minimal or minimal maintenance.

Main Technical Parameters

NO	project		unit	data		
01	rated voltage		kV	12		
02	Maximum operating voltage		kV	12		
03	rated current		A	63 1250	630 1250 1600 2000 2500 3150	1250 1600 2000 2500 3150 4000
04	Rated short-circuit breaking current (rated thermal stability current effective value)		kA	20/25	31.5	40
05	Rated short-circuit closing current (peak)		kA	50/63	80	100
06	Rated peak withstand current (rated dynamic stability current peak)		kA	50/63	80	100
07	4S rated short-circuit withstand voltage		kA	20/25	31.5	40
08	Rated insulation level	Working voltage withstand (before and after rated breaking)/1-minute power frequency voltage withstand	kV	Ground 42 (fracture 48)		
		Impulse withstand voltage (before and after rated breaking)/Peak rated lightning impulse withstand voltage		Ground 75 (fracture 85)		
09	Rated thermal stability time		s	four		
10	Rated operating sequence			Fen-0.3S-180S-Fen		
11	mechanical life		time	20000		
12	Rated short-circuit breaking current breaking times		time	50		
13	Rated closing voltage of operating mechanism (DC)		V	AC、DC 110，220		
14	Rated opening voltage of operating mechanism (DC)		V	AC、DC 110，220		
15	contact gap		mm	11±1		
16	Overtravel (compression length of contact spring)		mm	3.5±0.5		
17	Three phase opening and closing bounce time		ms	⩽ 2		
18	Contact closing bounce time		ms	⩽ 2		
19	Average opening speed		m/s	0.9 ～ 1.3		
	Average closing speed		m/s	0.5 ～ 0.9		
20	Opening time	Under the highest operating voltage	s	⩽ 0.05		
21		At the lowest operating voltage		⩽ 0.08		
22	Closing time		s	0.1		
23	Main circuit resistance of each phase		μΩ	630 ⩽ 50	1250 ⩽ 45	
24	Allowable wear and accumulated thickness of dynamic and static contacts		mm	3		

Appearance and installation dimensions



VS1-24
side mounted indoor high-voltage vacuum circuit breaker



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

overview

VS1 indoor high-voltage vacuum circuit breaker (hereinafter referred to as circuit breaker) is an indoor switchgear used in 24kV power systems, serving as a protection and control unit for power grid equipment and industrial and mining enterprise power design. Suitable for switching various types of loads with different properties and frequent operations, as well as situations where short-circuit currents are broken multiple times. The product adopts a new circuit breaker operating mechanism, and the VSG primary part can use foreign brand sealing columns to seal the vacuum arc extinguishing type and the main electrical circuit components as a whole, protecting the arc extinguishing chamber from collision, dust, and condensation. Strong adaptability to the environment greatly reduces operation and maintenance costs, truly achieving a one-time partial maintenance free product. Insufficient maintenance of the operating mechanism; The operating mechanism is designed to be integrated with the circuit breaker body, and has been verified through type testing to have E2 level electrical life and M2 level mechanical life.

Main technical parameters

序号	Item from	unit	parameter
1	rated voltage	kV	24
2	Rated short-time power frequency withstand voltage (1min)	kV	65
3	Rated lightning impulse withstand voltage (peak)	kV	125
4	rated frequency	Hz	50
5	rated current	A	630/1250
6	Rated short-circuit breaking current	kA	25、31.5
7	Rated short-time withstand current	kA	25、31.5
8	Rated short-circuit duration	s	4
9	Rated peak withstand current	kA	63/80
10	Rated short-circuit closing current	kA	63/80
11	Secondary circuit power frequency withstand voltage (1min)	V	2000
12	Rated breaking current of single/back-to-back capacitor bank*	A	630/400
13	Opening time	ms	≤ 50
14	Closing time	ms	≤ 70
15	mechanical life	time	M2 级 10000（630-1250、31.5）
16	Electrical lifespan	time	E2 级
17	Allowable cumulative thickness of wear for dynamic and static contacts	mm	3
18	Rated closing operation voltage	V	AC110、AC220 DC110、DC220
19	Rated opening operation voltage		
20	Rated voltage of energy storage motor		
21	Rated power of energy storage motor	W	90
22	Energy storage time	S	≤ 15
23	Contact opening distance	mm	13±1
24	Overtravel	mm	3±1
25	Contact closing bounce time	ms	≤ 2
26	Three phase asynchronous opening and closing	ms	≤ 2
27	Average opening speed	m/s	Contact stiffness: 6mm, 0.9~1.7
28	Average closing speed	m/s	6mm~Contact just closed 0.6~1.0
29	Opening rebound amplitude	mm	≤ 3
30	Main electrical circuit resistance	μΩ	≤ 45(630) ≤ 35(1250A)
31	Contact closing contact pressure	N	3100~3700
32	Rated operating sequence		Min-0.3s HeFen-180s HeFen

ZN63(VS1)-24
Fixed/Handcart Indoor High Voltage Vacuum Circuit Breaker



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

overview

ZN (VS1) -24 indoor high-voltage vacuum circuit breaker is an indoor switchgear for three-phase AC 50Hz power systems with a rated voltage of 12kV or above. It serves as a protection and control unit for power grid equipment and industrial and mining enterprise power equipment. Suitable for places that require frequent operation at rated working current, or multiple disconnections 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 and meaning

Z N 63 - 24□/□-□

- Rated short-circuit breaking current (KA)
- Rated current (A)
- Operating mechanism code, T is the spring operating mechanism
- Rated voltage (KV)
- Design Number
- indoor
- Vacuum circuit breaker

ormal condition

The ambient air temperature shall not exceed 40 ℃ , and the average value measured within 24 hours shall not exceed 35 ℃ , with a minimum ambient air temperature of -15 ℃ ;

Altitude: not exceeding 3000m;

The surrounding air is not significantly polluted by dust, smoke, corrosive, flammable gases, vapors, or salt spray;

Humidity conditions: The average relative humidity should not exceed 95%, the average monthly relative humidity should not exceed 90%, the average water vapor pressure should not exceed 2.2kPa, and the average monthly water vapor pressure should not exceed 1.8kPa;

Vibration or ground motion from outside the switchgear and control equipment can be ignored;

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

Product Technical Features

1. The overall performance of the circuit breaker is superior

The arc extinguishing chamber and operating mechanism of the circuit breaker are configured in a front to back manner and connected as a whole through a transmission mechanism.

The mechanical lifespan can reach up to 30000 cycles.

2. Advanced vacuum arc extinguishing chamber

Sealed ceramic vacuum arc extinguishing chamber.

The copper chromium contact material and longitudinal magnetic field contact structure are arc extinguishing methods.

3. Enhanced insulation cylinder

The insulation cylinder is formed using the APG new process.

Adding inner skirts and reinforcing ribs to the insulation cylinder improves the insulation level and resistance to dynamic stable current.

The vacuum arc extinguishing chamber is installed inside the insulation cylinder, effectively preventing damage and surface contamination caused by foreign objects, while significantly reducing the overall size of the circuit breaker.

4. Flexible and easy to operate functions

The operating mechanism adopts a spring energy storage type, which has two functions: electric and manual energy storage.

The energy stored in the energy storage spring during the operation of the circuit breaker is transmitted to the connecting rod mechanism through the output cam, and then transmitted to the moving contact part through the connecting rod mechanism.

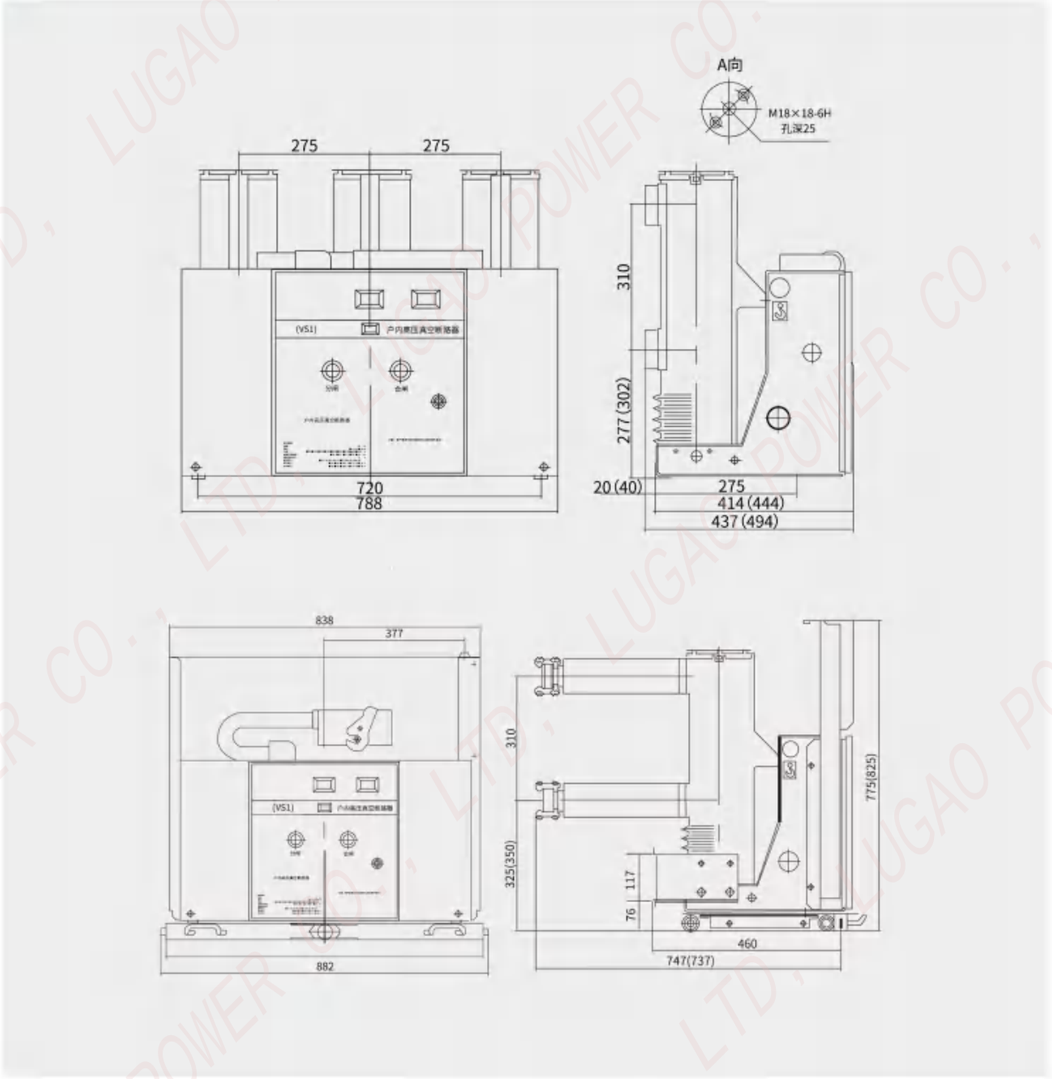
Advanced and reasonable buffering device, no rebound when opening, reduces the impact and vibration of opening.

No need for adjustment, minimal or minimal maintenance.

Main Technical Parameters

NO	project	unit	data		
01	rated voltage	kV	twenty-four		
02	Rated short-time power frequency withstand voltage (1min)	kV	65/79 (phase to phase, ground/fracture)		
03	Rated lightning impulse withstand voltage (peak)	kV	125/145 (phase to phase, 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 closing current	kA	50/63	80	100
11	Secondary circuit power frequency withstand voltage (1min)	V	200		
12	Rated breaking current of single/back-to-back capacitor group	A	630/400 (40kA equals 800/400)		
13	Rated capacitor bank closing inrush current	kA	12.5 (frequency not exceeding 1000Hz)		
14	mechanical life	time	10000		
15	Rated current breaking times (electrical life)	time	20000		
16	Rated short-circuit current breaking times	time	50(40kA ⩽ 30)		
17	Allowable cumulative thickness of wear for dynamic and static contacts	mm	3		
18	energy storage time	s	⩽ 10		
19	contact gap	mm	16±1		
20	overstroke	mm	3.5±0.5		
21	Contact closing bounce time	ms	⩽ 2(40kA ⩽ 3)		
22	Three phase non intermittent opening and closing	ms	⩽ 2		
23	Average opening speed (contact separation -8mm)	m/s	1.5±0.2		
24	Average closing speed (8mm - contact closure)	m/s	0.8±0.2		
25	Main electrical circuit resistance	μΩ	⩽ 50(630A) ⩽ 45(1250A) ⩽ 35(1600-2000A) ⩽ 25(2500Aabove)		
26	Rated operating sequence		Min-0.3s combined 180s combined		

Appearance and installation dimensions



VS1-40.5

Formal front fixed and side-mounted indoor vacuum circuit breaker



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

overview

This circuit breaker is suitable for use in three-phase AC 50Hz, 40.5kv systems, and can be used for load current, overload current, and short-circuit current in industrial and mining enterprises, power plants, and substations. It is also suitable for frequent operation scenarios.

Model and meaning

LG (VS1)- 40.5 / 2000 - 31.5

- 31.5 — Rated short-circuit breaking current (kA)
- 2000 — rated current
- 40.5 — Rated voltage (kV)
- VS1 — Design Serial Number
- LG — Enterprise Code

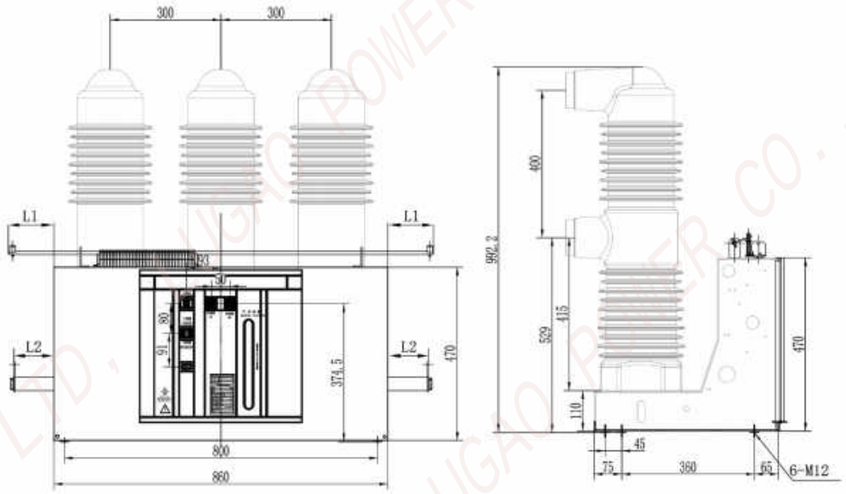
Normal usage conditions

Air temperature: -25 ℃ -+70 ℃ ;
Altitude: 2000m;
Wind speed<35 meters/second, relative temperature<95:
Seismic intensity: Seismic intensity of 8 degrees:
Ground horizontal acceleration 1/4g, ground vertical acceleration 1/8g, safety factor 1.7:
Pollution level: Level II;
Ice thickness: 10mm;
System neutral point grounding method: neutral point ungrounded/arc suppression coil grounded/low resistance grounded system.

Product Technical Features

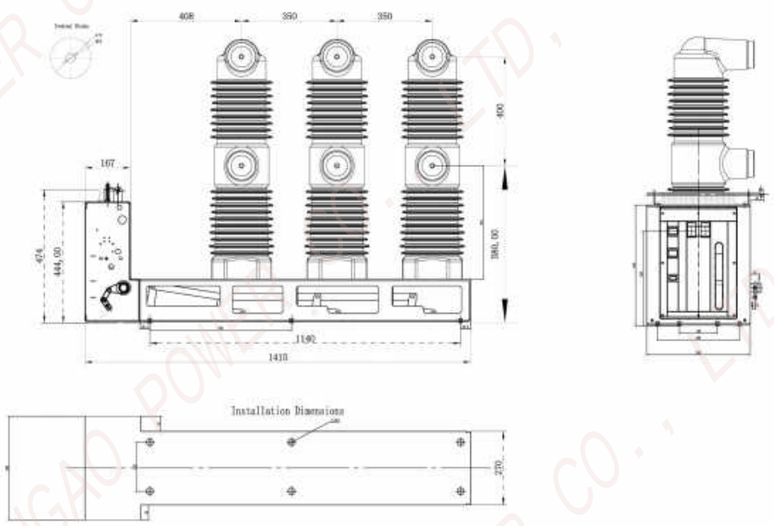
serial number	project		unit	data	
	rated voltage		kV	40.5	
01	rated frequency		Hz	50	
02	Rated insulation level	Rated lightning impulse withstand voltage (peak)	kV	185	
03		Power frequency withstand voltage (1min)	kV	95	
04	Rated short-circuit breaking current		kA	20/25	31.5
05	rated current		A	630 1250	1250 1600 2000 2500 3150
06	Rated short-circuit closing current (peak)		kA	50/60	80
07	Rated short-circuit duration		s	4	
08	Rated short-circuit current breaking times		time	30	20
09	Rated operating sequence			o-0.3s-C0-180s-C0	
10	mechanical life		time	1000	
25	Main electrical circuit resistance		μΩ	⩽ 50(630A) ⩽ 45(1250A) ⩽ 35(1600-2000A) ⩽ 25(2500Aabove)	
26	Rated operating sequence			Min-0.3s combined 180s combined	

Fixed appearance and installation dimensions



Rated current(A)	650	1250	1600	2000	2500
Rated short- cireuit breakingcurrent (kA)	25/31.5			31.5	
Phase distance(mm)	350±1.5				
Mechanism top interlock Ll(mm)	50,120,150,200(interlocking can be extended to the left or right, the length canbe customized according to customer requirements)				
Mechanism spindle interlock L2(m)	36,106,136,186(interlocking can be extended to the left or right, the length can becustomized according to customer requirements)				

side mounted appearance and installation dimensions



ZN85-40.5
Indoor high-voltage vacuum circuit breaker

LUGAO



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

overview

The ZN85-40.5 series indoor high-voltage vacuum circuit breaker (hereinafter referred to as the circuit breaker) is suitable for use in three-phase AC 50Hz, rated voltage 40.5kV power systems, and can be used for load current, overload current, and fault current in industrial and mining enterprises, power plants, and substations. The circuit breaker and operating mechanism are arranged vertically, effectively reducing the depth of the circuit breaker.

The three-phase arc extinguishing chamber and associated charged body are isolated by three independent epoxy resin insulation cylinders, forming a composite insulation structure. The circuit breaker meets the requirements of air distance and creepage distance under normal operating conditions, and effectively reduces the volume of the circuit breaker. The main electrical circuit vacuum arc extinguishing chamber and the dynamic and static conductive connection are installed inside the insulation cylinder, with a phase spacing of only 300mm. The main circuit electrical connections are all fixed connections, which have high reliability. The insulation cylinder is installed above the circuit breaker frame.

The spring operated mechanism specially designed for this new type of circuit breaker is installed inside the circuit breaker frame, and its structural characteristics are more suitable for the upper and lower layout of the circuit breaker, and become an integral part of the overall structure of the circuit breaker. The mechanism design is simple, and the output curve and its performance are more suitable for the characteristics and requirements of 40.5kV vacuum circuit breakers. The overall layout is reasonable, beautiful, and concise. Small size, flexible operation, reliable electrical performance, long service life, easy maintenance, and maintenance free mechanism. This circuit breaker is suitable for frequent operation, various occasions, and places with harsh operating conditions.

Model and meaning

ZN 85 - 40.5C / 2000 - 31.5

- Rated short-circuit breaking current
- Rated current
- Rated voltage
- Design Number
- Indoor vacuum circuit breaker

Execution standards

GB1984-2003 High Voltage AC Circuit Breakers

GB/T11022-1999 Common Technical Requirements for High Voltage Switchgear and Control Equipment Standards

IEC62271-100 High Voltage AC Circuit Breakers

Normal condition

Surrounding air temperature: not exceeding 40 ℃; The daily average temperature does not exceed 35 ℃; The minimum ambient air temperature is -15 ℃;

Relative humidity of the air: daily average not exceeding 95%, monthly average not exceeding 90%; The daily average value of water vapor pressure shall not exceed 2.2kPa; The monthly average value is not greater than 1.8kPa;

Altitude: not exceeding 1000m;

There is no obvious pollution from dust, smoke, corrosive, flammable gases, steam or salt spray around;

Vibration or ground motion from outside the switchgear and control equipment can be ignored;

The amplitude of electromagnetic interference induced in the secondary system shall not exceed 1.6kV;

The installation location for special use conditions is at an altitude exceeding 1000m, where the ambient air temperature exceeds the limit specified for normal use conditions, or where high humidity is prone to condensation. Please consult with us for customization.

Product Technical Features

1. The overall performance of the circuit breaker is superior

The overall structure of the circuit breaker is simple and reasonable, and the arc extinguishing chamber, interlocking, and operating parts are arranged vertically.

Specialized spring operated mechanism, no need for adjustment, stable and reliable action.

The installation form is free and flexible, including installation inside the pull-out handcart cabinet and fixed installation with side mechanism layout.

2. High reliability insulation cylinder

The insulation cylinder is made of epoxy resin with reliable mechanical and electrical properties through a mature vacuum casting process.

The vacuum arc extinguishing chamber is arranged inside a closed insulation cylinder, significantly improving the insulation performance, avoiding the influence of harsh external environments, and effectively preventing dust and foreign objects from entering the main circuit.

Significantly reduce the overall size of the circuit breaker.

3. Advanced vacuum arc extinguishing chamber

The preferred WL-35855X vacuum arc extinguishing chamber comes from the quality assurance of Cutler Hammer company in the United States.

Optional coil type vertical strong magnetic field structure vacuum arc extinguishing chamber, using ceramic shell, copper chromium contact material, small external dimensions, high insulation level, strong arc extinguishing ability, long electrical life, excellent performance in breaking and closing short-circuit current.

4. Optional sealing process

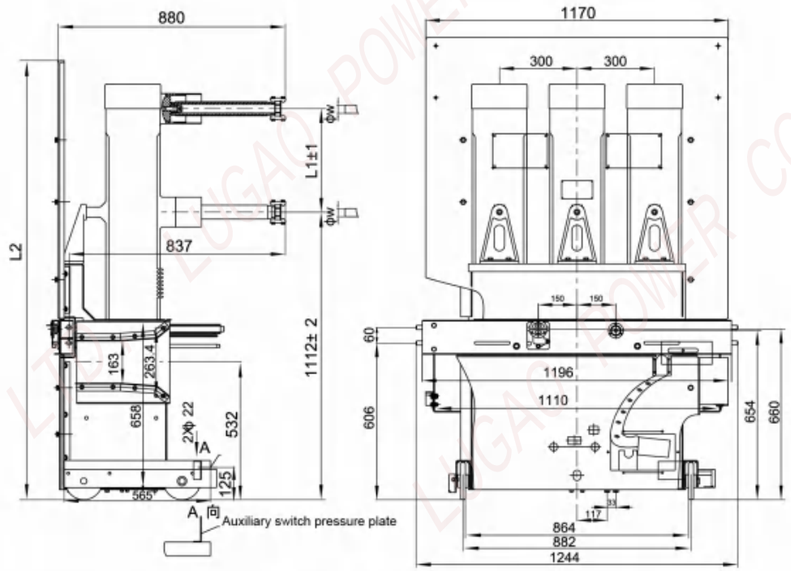
The main electrical circuit of the circuit breaker adopts solid sealing technology, and the vacuum arc extinguishing chamber is poured into the insulation cylinder.

The insulation strength is greatly improved.

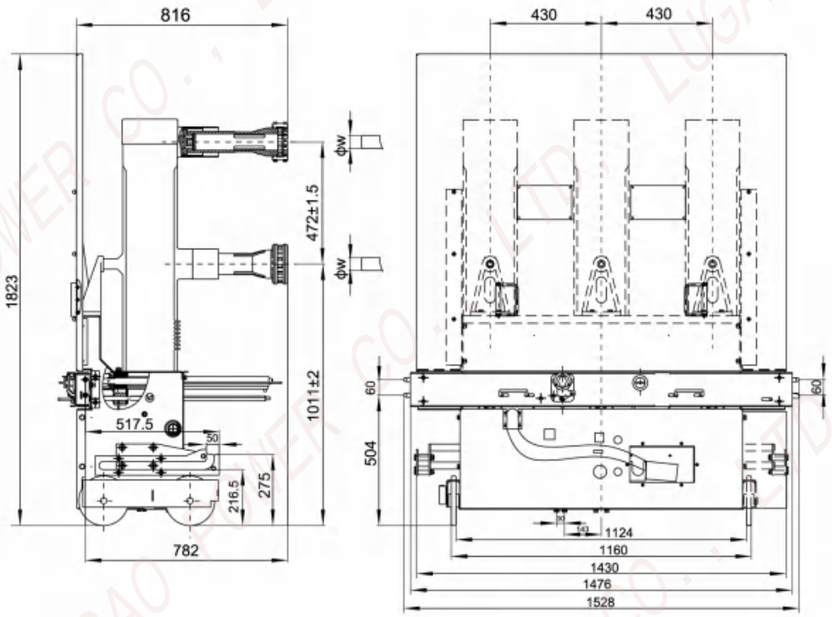
Typical wiring scheme

Serial Number	project	unit	data
1	Rated voltage	KV	40.5
2	1-minute power frequency withstand voltage (effective value)	kV	95
3	Lightning impulse withstand voltage (peak value)	kV	185
4	Rated frequency	Hz	50
5	Rated current	A	1250, 1600, 2000
6	Rated short-time withstand current	kA	25, 31.5
7	Rated peak withstand current	kA	63, 80
8	Rated short-circuit duration	S	4
9	Rated short-circuit breaking current	kA	25, 31.5
10	Rated short-circuit closing current	kA	63, 80
11	Rated operating sequence		O-0.3s-CO-180s-CO
12	Cut off time	ms	＜80
13	Rated short-circuit breaking current breaking times	order	20
14	Single capacitor bank breaking current	A	630
15	Back to back capacitor bank breaking current	A	400
16	Rated operating voltage	V	AC110, 220; DC110,220
17	Mechanical lifespan	order	10000

Appearance and installation dimensions

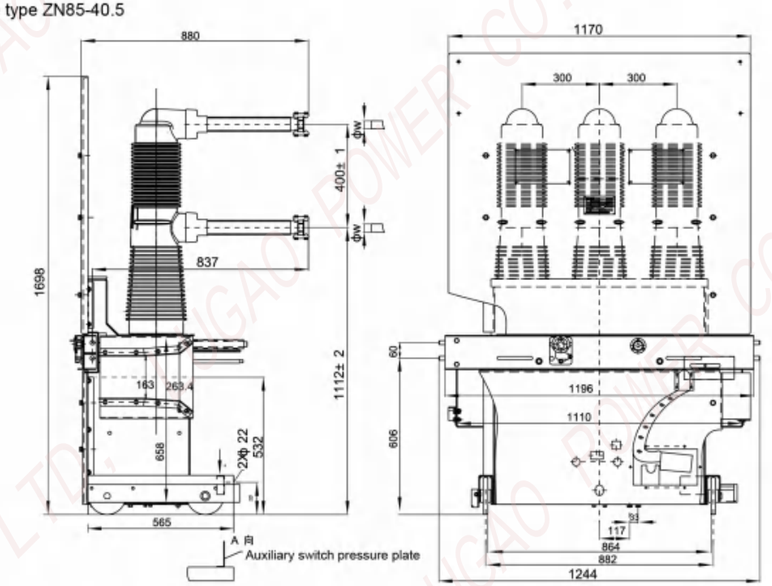


Distance between upper and lower contact arms L1 (mm)	Total distance L2 (mm)
400	1698
472	1788



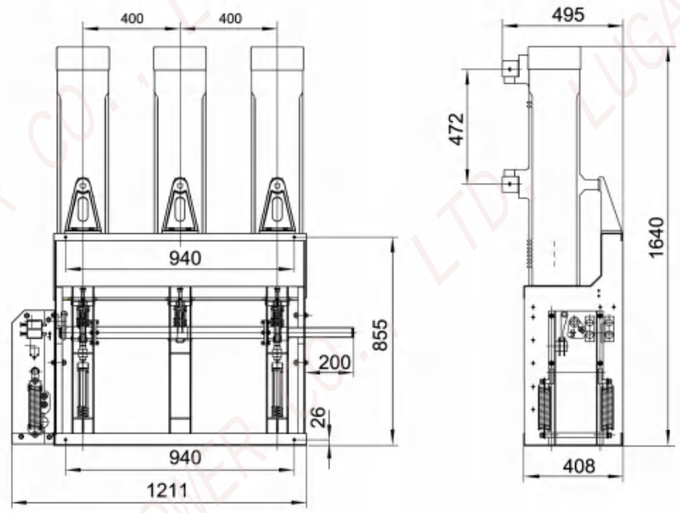
Appearance and installation dimensions

Fixed sealed pole type ZN85-40.5



Distance between upper and lower contact arms L1 (mm)	Total distance L2 (mm)
400	1698
472	1788

ZN85-40.5 side mounted circuit breaker



HY5W
Drop type lightning arrester



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

General

Detachable type surge arrester is an optimized distribution type zinc oxide arrester and to mount on a drop out (explosive) fuse cutout on the pole. it is applicable to operate with insulating hot stick. itis easy for detection, repair and replacement which not only assure the stability of distribution line, but also greatly reduce maintenance needed.it is particularly applicable to locations where requires continuous power supply like telecommunication station, airport, hospital, commercial center. The properties are same with distribution type surge arrester.

Advanced RW-12 type drop out mechanism, reliable contact, and composite support are applied to this type of surge arrester. it has features of good anti-pollution, quick operation, wide current range, and high withstand capacity to current impulse and operating load.

This type of surge arrester meets standardIEC60099-4:1991.

Model Meaning

HY 5 W S - 17 / 50 DL TB

- TB/TR:
  - TB: Belt thermal explosion form
  - TR: Hot melt type detachment
- DL: Refers to drop out type structure
- Nominal discharge current max.residual voltage (kV)(Peak)
- Rated voltage (kV)(Effective value)
- Application field:
  - S: For distribution line, R: For capacitor, Z: For power station
- Feature: W-No clearance
- Nominal discharge current (kA)
- Composite metal oxide surge arrester

Characteristic

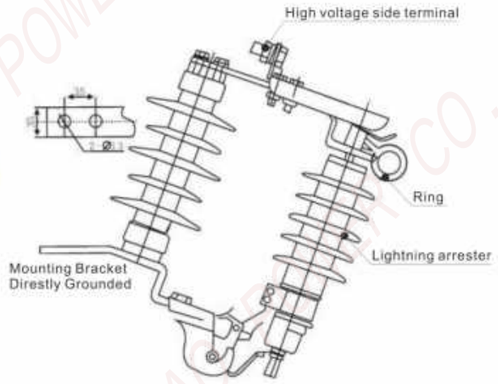
1. Lightning arrester unit can be charged at any time, particularly suitable for loading and unloading place should not be cut.
2. Belt disengaging device, arrester unit fault can automatically turn fall, out of the operation, safeguard the normal traffic line.
3. Because the failure unit falling form marked, easy to find, to repair and replace.
4. Lightning arrester using composite coat, drop mechanism adopts a composite column, good hydrophobicity, stain resistant ability.

Conditions Of Use

1.Ambient temperature:-40°C ≤T≤40°C
2.Altitude above sea level:≤ 3000m
3.Power frequency:48Hz~62Hz
4.Max.wind speed:≤ 35m/s
5.Seismic intensity:≤ 7

General Arrangement





Thermal explosion form type drop out type surge arrester structure diagram

Key TechnicalParameters

Type of Surge Arrester		HY5WS-10/30 DL	HY5WS-10/30 DL-TR	HY5WS-10/30 DL-TB	HY5WS-17150 DL	HY5WS-17150 DL-TR	HY5WS-17150 DL-TB
System rated voltage	kV (r.m.s)	9			10		
Rated voltage of surgearrester		10			17		
Continuous operating voltage		8.0			13.6		
The DC reference voltage(u1mA)	≮ kV	15.0			25.0		
0.75u1mA leakage current	≯ μA	30			30		
Lightning impulse current of residua	≯ kV	30			50.0		
Switching impulse current residual		25.6			42.5		
Square wave current capacity	≮ A	150			150		
Large current impulse withstand	≮ kA	40			40		
Application field		Distribution					

Installation Instructions

1.This product shall be installed in distribution line with consistent rated voltage of the surge arrester.

2. Before the installation and operation, a check of arrester element and drop out type body shall be made in order to ensure good contact and unloading.

3. 15~30° angle to vertical position when installing and guarantees a clearance of≥ 200mm.

YH5WS
Lightning Arrester



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

Overview

The metal zinc oxide trap is a high-tech product from the 1990s internationally. It uses zinc oxide resistors with excellent nonlinear volt ampere characteristics, which greatly improves the protection characteristics of lightning arresters under steep slopes, lightning waves, and operating waves compared to traditional silicon carbide lightning arresters. Especially zinc oxide resistors have good steep slope response characteristics, no delay in steep slope voltage, low residual voltage during operation, and no discharge dispersion. Thus, it overcomes the inherent disadvantages of high slope discharge voltage caused by steep slope discharge delay and high operation wave discharge voltage due to large dispersion of operation wave discharge in silicon carbide lightning arresters, greatly improving the protection margin under steep slopes and operation waves. Moreover, in terms of insulation coordination, it can achieve similar protection margins for steep slopes, lightning waves, and operation waves, providing optimal protection for power equipment and improving the reliability of protection. Zinc oxide lightning arrester has the ability to absorb lightning overvoltage, operational overvoltage, and power frequency transient overvoltage simultaneously.

The composite jacket metal zinc oxide lightning arrester is a high-tech product from the 1990s internationally. It is molded with integral silicone rubber, which has good sealing performance and excellent explosion-proof performance. Pollution is free from cleaning, and can reduce the occurrence of wet flashes in foggy days. It is resistant to electrical corrosion and aging, small in size and light in weight, and collision resistant, which is convenient for installation and maintenance. It is an upgraded product of porcelain bushing lightning arrester.

Model meaning

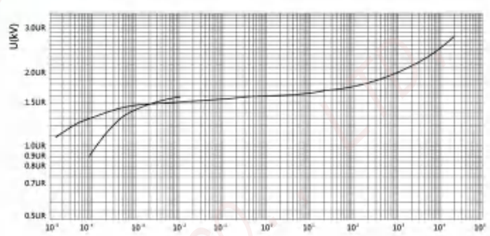
HY 5 W S 5 - 17 / 50 □

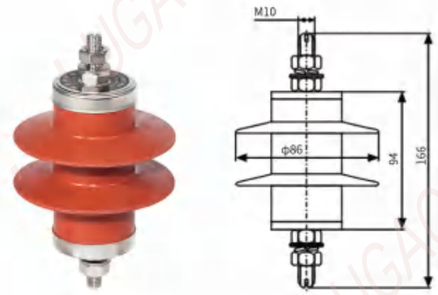
- Additional feature W: Anti fouling G: Plateau type
- Maximum residual voltage kV (peak) under nominal discharge current
- Rated voltage of lightning arrester kV (effective value)
- Design Number
- Usage location S: Distribution Z: Power station R: Capacitor bank X: Line
- T: Railway D: Motor type O: Used in oil: DC
- Structural feature W: gapless C: series gap R: parallel gap
- Nominal discharge current kA
- The metal oxide zinc arrester with a double jacket (HY is an old model) and Y is a ceramic jacket metal oxide arrester

Technical standard

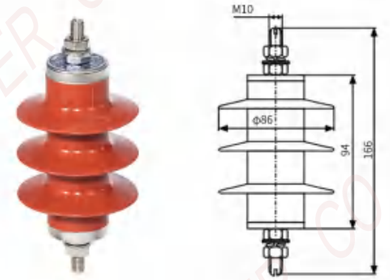
The standards for product production implementation are GB11032-2000 (eqv IEC60099-4:1991) "AC gapless metal oxide surge arrester" and JB/T8952-2005 "Composite jacket gapless metal oxide surge arrester for AC systems".

Technical standard

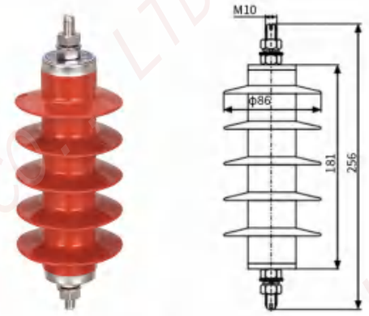




HY5WS-5/15

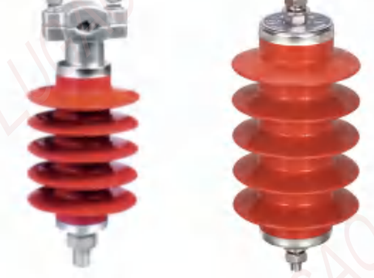


HY5WS-7.6/30

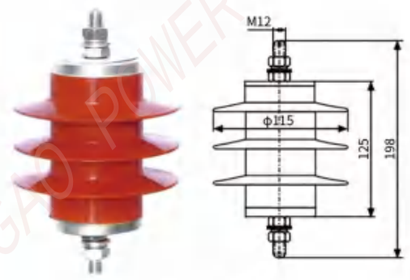


HY5WS-17/50

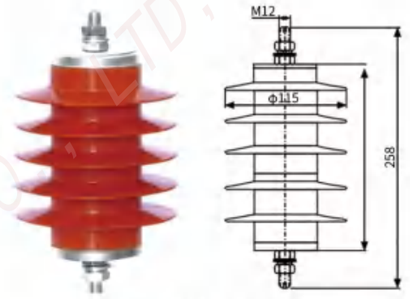
Puncture Type External Clearance ArresterFHY5C-10C



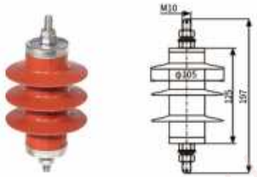
HY5WS-10/30



HY5WR-10/27



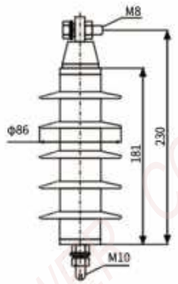
HY5WR-17/45

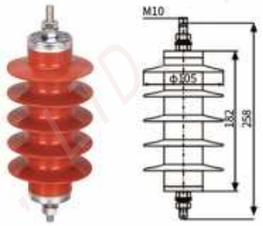


HY5WZ-10/27

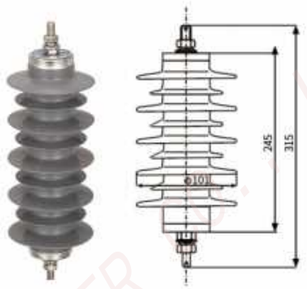


HY5WX-17/50





HY5WZ-17/45



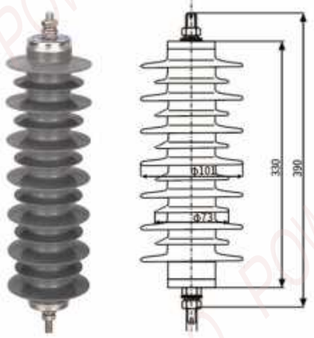
HY5WZ-26/66 20kV



Y5WS-17/50FT

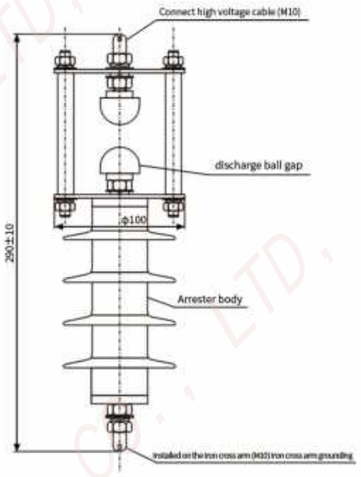


Y5WS-17/50



HY5WZ-34/85



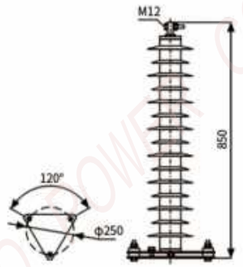




HY1.5W-30/80



HY1.5W-70/186 (Triangular Seat)



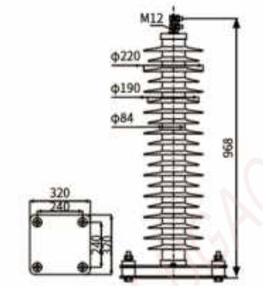
Lightning arrester for neutral point of 110kV transformer



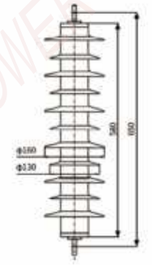
HY1.5WX-51/134



110kV anti fouling transformer neutral point lightning arrester



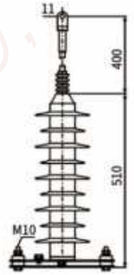
HY1.5W-72/186W (square seat)

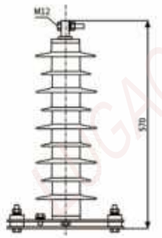


HY5WX-51/134



35kV switchgear with fully insulated lightning arrester





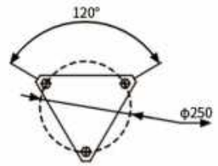
Minimum height of lightning arrester for switchgear



HY5WZ-51/134



HY5WZ-51/134GY (High Prototype)

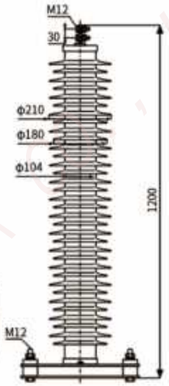




35kV series gap line type lightning arrester (suspended type)

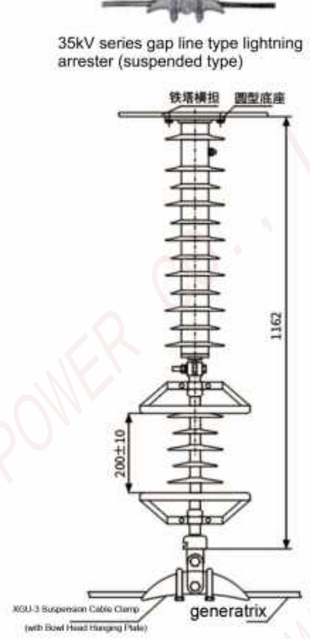






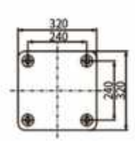
110kV power station type lightning arrester (square seat)

HY10W-100/260

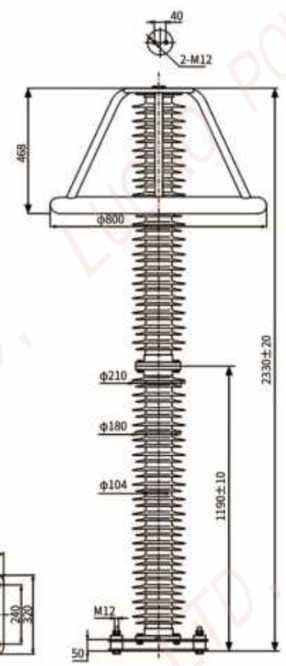


HY5WCX-51/134E 35kV series gap line type lightning arrester (inverted pile type)





220kV power station type lightning arrester (square seat)



HY10W-200/520

Composite Tension & Suspension Insulator Series

LUGAO



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

Composite Tension & Suspension Insulator

Composite tension/suspension insulator mainly consists of a core rod (ECR type orFRP type), silicone rubber housing and metal end fitings. LANGA0 PoWER is producing and exportingtension and suspension insulators from 10kV to 400 kV with various core rod sizes for distributionand transmission systems. (We HAVE exported 138kV,245kV,330kV, 400kV, insulators).

Core Rod- Made of high-quality Pultruded Epoxy Fiberglass Rod (FRP and ECR Types).End Fittings- #45 Forged Steel or Ductile lron, Hot Dip Galvanized, then directly crimp to thecore rod through a circumferential crimping process to achieve better performance.Housing to Core- They are Chemically Bonded and the interface strength between the housingand core is higher than the tearing strength of housing itself.Silicone Rubber Housing- HTV Silicone Rubber, made of high quality raw materials. Corona/Grade Ring- Made of High-Grade Aluminum Aloy, suitable for (above) 110kV insulators.Sealing- Juncture between end fitting and Core rod is totally embedded in HTV silicon rubber.eliminating conventional and traditional sealing defects. (The other type is availablethat use RTV Silicone Sealant to seal the juncture between end fitting and core rod.)

Two Ends Of Connecting Hardware List

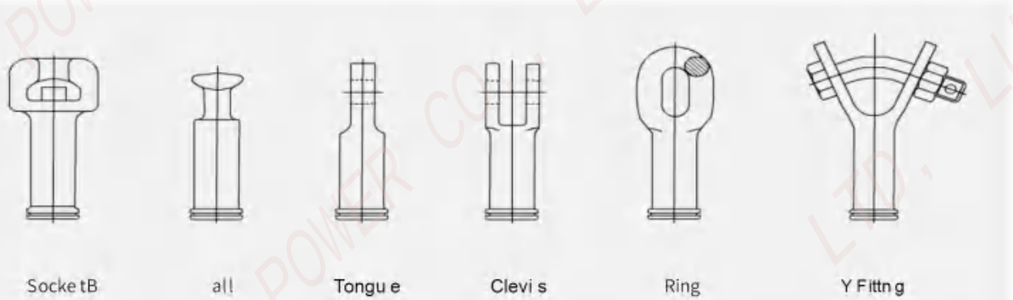
Attached to the letter	WQ	WD	WU	QQ	CT	TT	UU	YQ	RR
On behalf of fittings	Socket-Ball	Socket -Tongue	Socket -Cevs	Ball - Ball	Clevis-Tongue	Tongue-ongue	Clevs- Clevis	Y-Ball	Ring- Ring
Connection mark	16-16	16-7	16-7	16-16	7-7	7-7	7-7	7-7	7-7

1, According to the requirements of hardware in models are indicated in the attached letter;

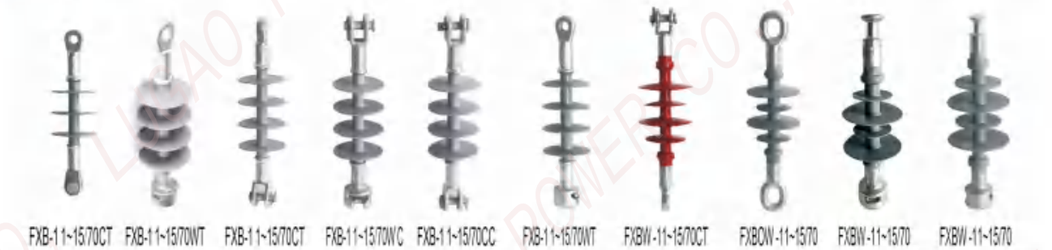
2, According to the requirements of users can formulate and match ends fitting;

3, Silicone rubber color gray as the default, can also choose the other colors.

4,custom made according to customer’ s drawings



Composite Tension & Suspension Insulator Series



Product Type	Dimensions						Mechanical		Electrical		
	Height mm)	Min DryArcing Distance (mm)	Min Creepage Distance (mm)	Diameter of the rod (mm)	Number of sheds (mm)	Sheds of diameter (mm)	Specified Mechanical Load(SML) (kN)	Routine Test Load (RTL) (KN)	Rated Voltage (kv)	Lightning Impulse withstand voltage(kV)	Power Frequency withstand Voltage (KV)
FXB-11~15/70CT	310±10	170	330	17	3	98	70	35	11-15	105	55
FXB-11~15/70WT	365±10	200	450	17	4	98	70	35	11-15	105	55
FXB-11~15/70CT	365±10	200	450	17	4	98	70	35	11-15	105	55
FXB-11~15/70WC	365±10	200	450	17	4	98	70	35	11-15	105	55
FXB-11~15/70CC	365±10	200	450	17	4	98	70	35	11-15	105	55
FXB-11~15/70WT	365±10	200	450	17	4	98	70	35	11-15	105	55
FXBW-11~15/70CT	365±10	200	450	18	4	115/85	70	35	11-15	105	55
FXBOW-11~15/70	365±10	190	360	18	4	115/85	70	35	11-15	105	55
FXBW-11~15/70	310±10	190	360	18	4	100/65	70	35	11-15	105	55
FXBW-11~15/70	350±10	190	480	18	4	115/85	70	35	11-15	105	55
FXBW-1/70	280±10	115	240	18	2	115/85	70	35	1	45	20
FXB-11~15/70WT	365±10	200	450	17	4	98	70	35	11-15	105	55
FXB-11~15/70TQ	365±10	200	450	17	4	98	70	35	11-15	105	55
FXB-20~27/70CT	460±10	200	675	17	6	98	70	35	20-27	135	65
FXB-20~27/70WQ	460±10	315	675	17	6	98	70	35	20-27	135	65
FXB-33~36/70CT	545±10	360	915	17	8	98	70	35	33-36	230	95
FXBW-33~36/70WT	545±10	360	915	17	8	98	70	35	33-36	230	95
FXB-33~36/70CT	590±10	410	1025	17	9	98	70	35	33-36	230	105
FXBOW-20~27/70	475±10	270	725	16	8	105/75	70	35	20-27	160	85
FXB-20~27/70YQ	450±10	280	680	18	5	120	70	35	20-27	230	75
FXB-20~27/40WQ	405±10	280	680	18	5	120	40	20	20-27	230	75

35-220KV
Composite windproof biased insulator



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

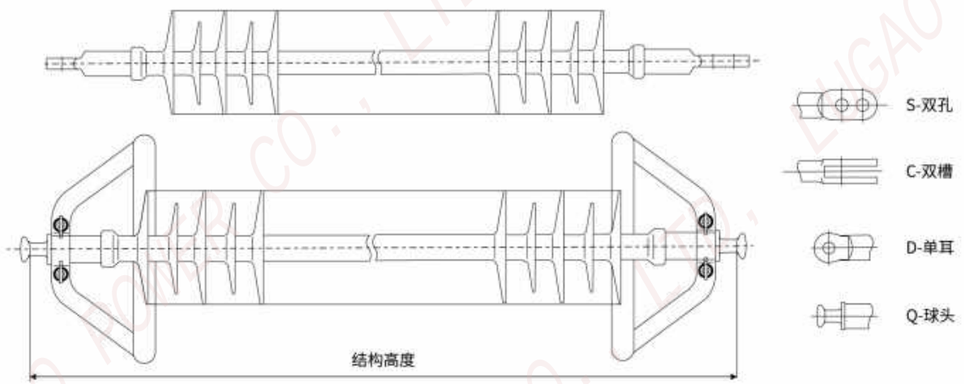
overview

Composite phase spacing rods are used for compact high-voltage transmission lines, which can effectively control the phase distance to maintain line safety, reduce the space of transmission corridors, and reduce investment in line construction. Composite interphase spacers have good bending and impact resistance, strong anti fouling ability, good shock and anti brittle fracture performance, light weight, easy installation, maintenance free, and do not require manual cleaning. They are worth promoting and using.

Main technical parameters (performance meets GB/T9519-2008, IEC61109)

Product Model	rated voltage (kV)	Rated Machinery Load (kN)	structural height (mm)	Minimum nominal creepage distance (mm)	Peak lightning impulse withstand voltage (kV)	Effective value of 1-minute wet withstand voltage at power frequency (kV)	Connection marker structure
FSP-35/0.8-AQ(TQ)	35	100	710±15	470	230	95	16
FSP-66/0.8-AQ(TQ)	66	100	950±15	710	410	185	16
FSP-110/0.8-AQ(TQ)	110	100	1440±15	1200	550	230	16
FSP-220/0.8-AQ(TQ)	220	100	2250±30	2050	1000	395	16

Installation appearance



Counter/Monitor



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

Counter (including in-line detector)

As a special supporting product of the arrester, the counter is used in conjunction with the arrester to record the working condition of the arrester.

Especially suitable for 35KV and above power stations and lines with lightning arresters, can also beUsed for matching with three-phase combined

overvoltage protection products.

In structure, the counter can be divided into outdoor dial type and cabinet sub-type; In function, it can be divided into simple counting type and additional

current monitoring type. On the component, it can be divided into valve self-sampling type and mutual inductanceInstrument sampling type. The above

several types of counters are produced by our company.

Chart 2: Typical technical parameter Chart of common outdoor disk counter

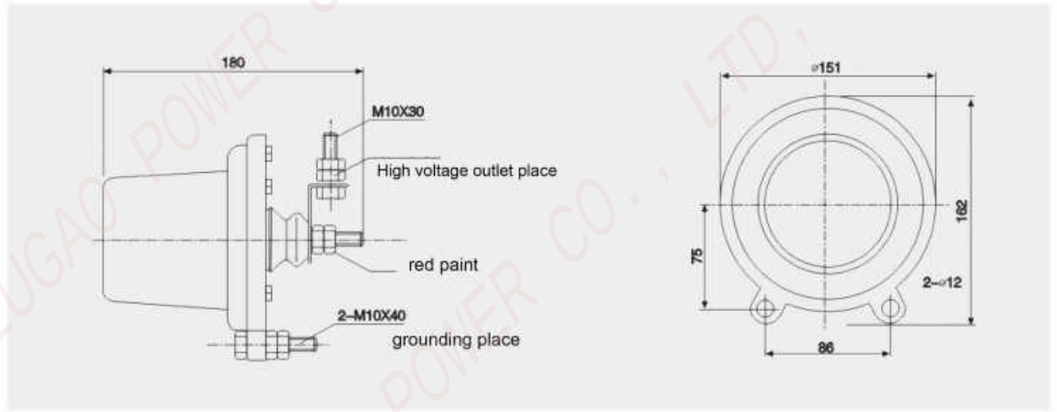
Model	Product Description	System Voltage(KV)	Nominal Discharge Current(KA)	Operating current range(A)	Additional residual voltage under nominal current(KV)	2MS square wave flow capacity(A)	4/10 High current tolerance(KA)
JS-8	Ordinary counter	3~66kV	5	50~5000	1	400	65
JCQ-2/800	Current type online monitor	3~220kV	10	50~5000	1	600	100

Please refer to our special counter instruction manual for detailed instructions and usage of the calculator. If the arrester is equipped with a

counter, the letter J is indicated after its standard model (with additional current monitoring function)The product is indicated by the letter JCQ").

Example :YH5WZ-17/45-J indicates that a counter is installed on the YH5WZ-17/45 arrester.

Appearance and installation dimensions



JLSZW □ -6、10
Type outdoor HV electric measuring tank



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

Summary

The JLSZW □ -6,10 three-phase outdoor dry-type high-voltage power metering box (combination transformer) consists of two or three single-phase voltage transformers (PT) and current transformers (CT), both of which are electromagnetic. This type of transformer is suitable for measuring electrical energy on three-phase AC power grids with a rated frequency of 50Hz and a rated voltage of 6kV and 10kV, and is installed on the high-voltage side of the power supply transformer. The instrument box is equipped with three-phase active and reactive energy meters, which are used to directly measure active and reactive electrical energy in high-voltage lines.

Model meaning

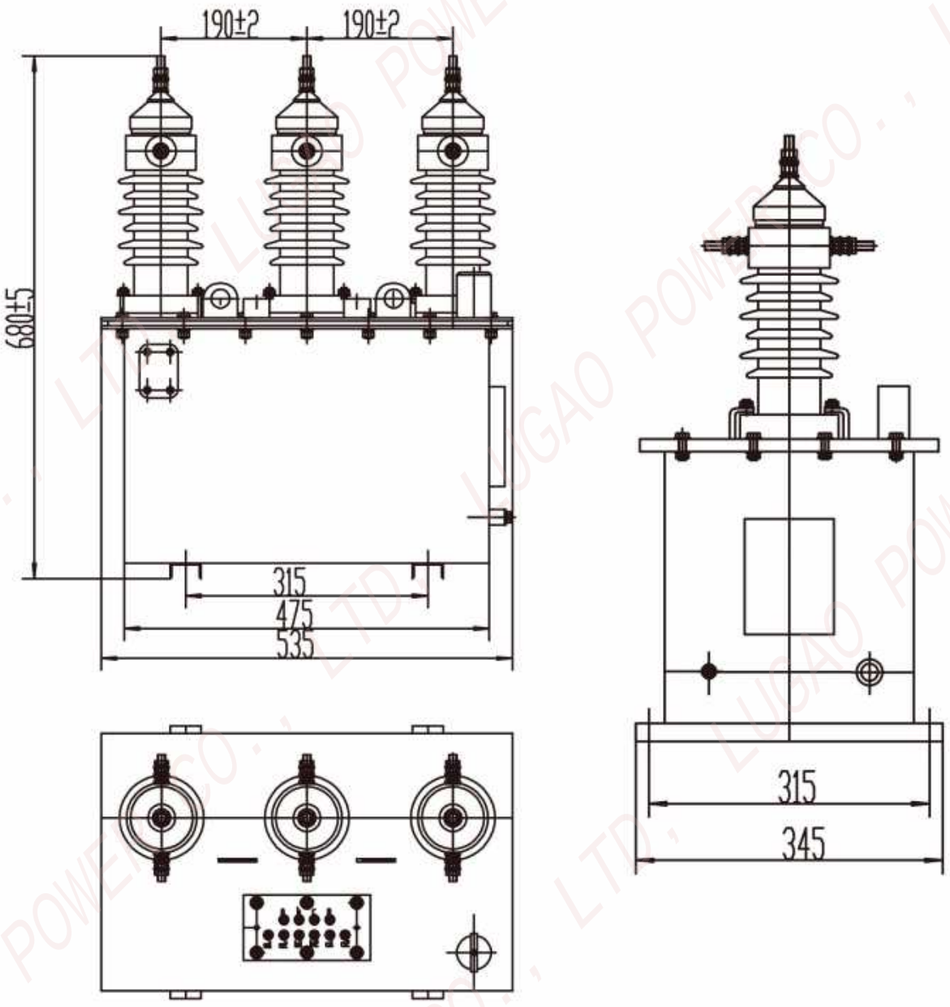
J L S Z W □ -6、10

- 10 — voltage level
- 6 — Design Number
- W — outdoor installation
- Z — Casting insulation
- S — three-phase
- L — current transformer
- J — voltage transformer

Technical Specifications

Rated voltage: 10KV, 6KV
Accuracy level: 0.5 and 0.2 levels, 0.5S and 0.2S levels

■ *Appearance dimension diagram*



JLS-6、10、35
model high-voltage electric measuring tank

LUGAO



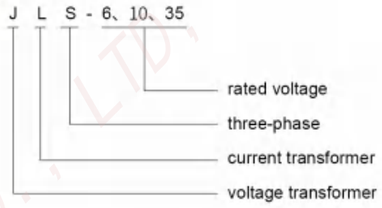
Respecting promise and keeping promise, operating in the right way, striving for perfection, coexistence and win-win situation

Summary

This product mainly consists of a combination transformer and an electricity meter box. The combination transformer consists of two or three single-phase voltage transformers and current transformers, using 25 # transformer oil as the insulation medium. The primary and secondary output terminals are both installed on the panel with porcelain sleeves. The electricity meter box is installed on the side of the combination transformer, consisting of one active electricity meter and one reactive electricity meter. It has the advantages of high measurement accuracy, light weight, easy installation, and anti electricity theft.

This type of energy metering box is suitable for outdoor three-phase system networks with rated voltages of 6, 10, 35kV and rated frequency of 50Hz.

Model meaning



Model meaning

1. The product performance complies with GBI7201-2007;

2. Rated voltage: 6kV, 10kV, 35kV:

3. Accuracy levels: 0.5 and 0.2, 0.5S and 0.2S;

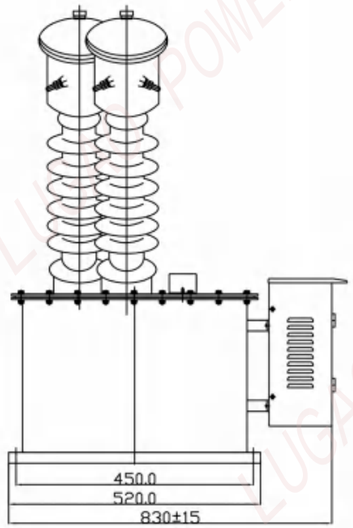
4. Rated transformation ratio: voltage ratio 6000/100 10000/100 35000/100 current ratio 5-300/5 (high current transformation ratio can be set)

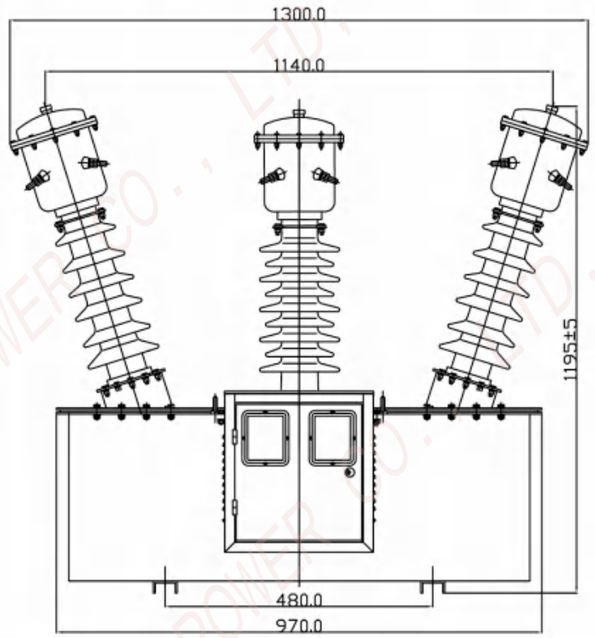
Technical parameters of combination transformer

Model	Rated voltage Ratio (V)	Rated current Ratio (A)	Frequency(Hz)	Voltage transformer Accurate grade and Rated output(VA)		Current transformer Accurate grade and Rated output(VA)		Rated Insulating Level (kV)	Standard code
				0.2 Class	0.5 Class	0.2Class	0.5 Class		
JLS-3 JS-6 JLS-10	3000/100	5-300/5	50	20	25	10	10	3.6/24/75	GB20840.2-2014 GB20840.3-2013 GB17201-2007
	6000/100	5-300/5	50	20	25	10	10	7.2/32/75	
	6300/110	5-300/5	50	20	25	10	10	7.2/32/75	
	10000/100	5-300/5	50	25	25	10	10	12/42/75	
JLS-35	35000/100	5-300/5	50	50	50	10	10	40.5/95/185	

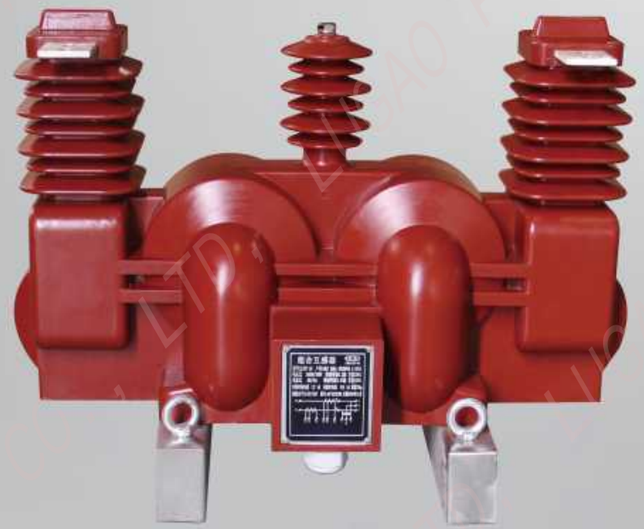
This type of high-voltage power metering box is divided into two types: single ratio and double ratio. When wiring with double ratio, the schematic diagram of the high current ratio connection AP1, AP2 and CP1, CP2, and the low current ratio connection AP1, AP3 and CP1, CP3 is shown below.

Appearance dimension diagram





JLSZV-6、10KV
dry-type power metering box

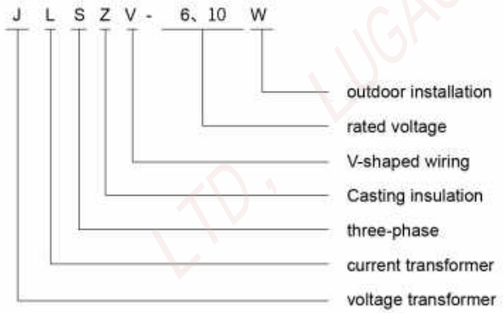


Respecting promise and keeping promise, operating in the right way, striving for perfection, coexistence and win-win situation

Summary

This type of voltage and current combination transformer is designed for use in AC 50Hz, rated voltage 10kV three-phase lines for voltage, current, and energy measurement and relay protection. It is suitable for outdoor substations in rural areas It can also be used in small industrial substations and distribution stations. This product can replace the JLSJW-10 oil immersed combination transformer.

Model meaning



Summary

This type of transformer is an outdoor epoxy resin (Swiss Ciba CW5837) cast fully sealed, pillar type structure. Due to the use of outdoor epoxy resin casting, the product has characteristics such as arc resistance, UV resistance, aging resistance, and lifespan. This product consists of two single-phase fully insulated voltage transformers connected in a "V" shape. The two current transformers are connected in series on phases A and C respectively, and the secondary winding of the current transformers has taps to obtain different current changes

The secondary output terminal has a wiring protection cover and an outlet hole below it, which makes wiring convenient, safe and reliable, and can achieve anti-theft measures. There are 4 mounting holes on the base channel steel for installation.

Technical data

The secondary output terminal has a wiring protection cover and an outlet hole below it, which makes wiring convenient, safe and reliable, and can achieve anti-theft measures. There are 4 mounting holes on the base channel steel for installation.

The rated transformation ratio of the voltage transformer is 10000/100, and the three-phase rated secondary output is 0.2 level 20VA.

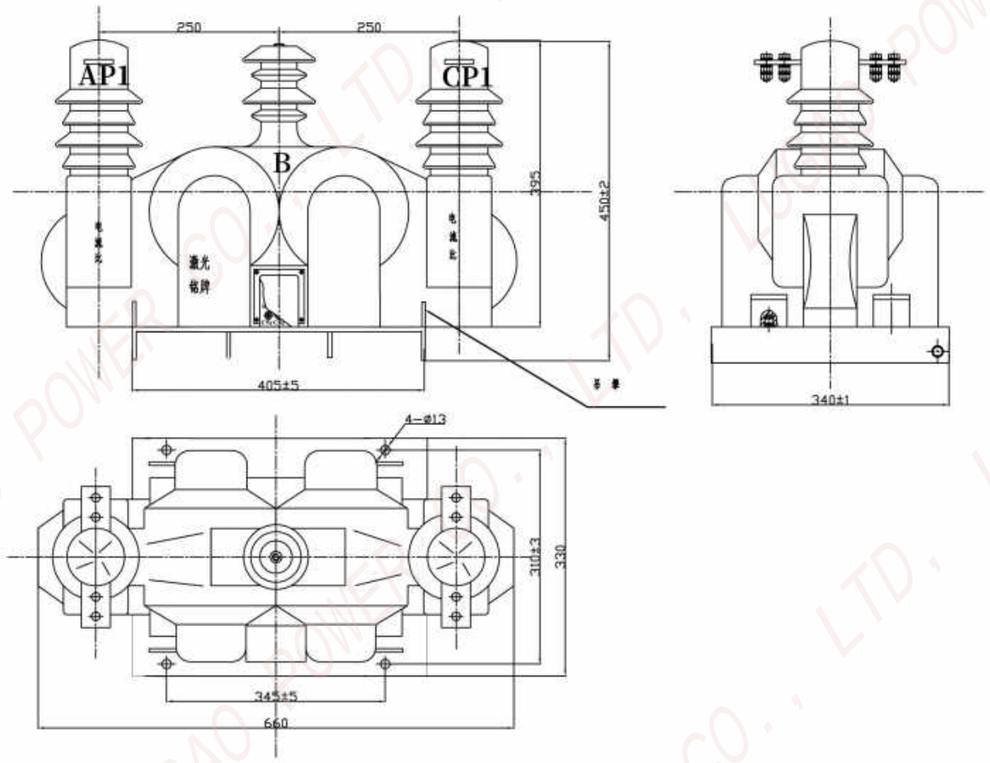
Load power factor COS Φ=0.8 (lag), current transformer instrument security factor FS ≤ 10.

7. Environmental temperature: between 30 °C and 40 °C , with a daily average temperature not exceeding 30 °C

8. Altitude: not exceeding 1000m.

Rated Primary Current (A)	Rated Short-time Thermal-current (kA virtual value)	Rated Dynamic Stability Current (kA virtual value)	Rated Secondary Output (VA)	
			0.2S Class	0.2 Class
5-10	1.0	2.5	10	15
10-20	1.5	3.75		
15-30	2.4	6.0		
20-40	3.0	7.5		
30-60	4.5	11		
40-75	8.0	20		
50-100	9.0	22 5		
75-150	12	30		
100-200	16	40		
150-300	24	60		
200-400	32	80		
300-600	60	100		

Appearance dimension diagram



JLSZY-6、 10KV
dry-type power metering box

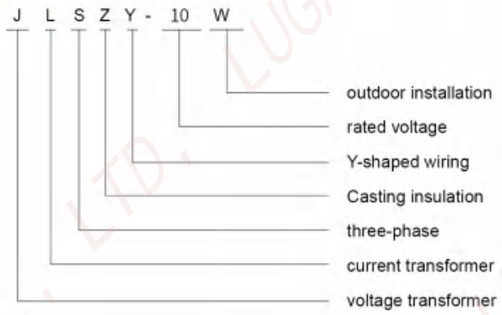


Respecting promise and keeping promise, operating in the right way, striving for perfection, coexistence and win-win situation

Summary

It can also be used in small industrial substations and distribution stations. This product can replace the JLSJW-10 oil immersed combination transformer. This type of voltage and current combination transformer is used for AC 50H2, rated voltage 10KV three-phase lines, for voltage, current, and energy measurement and relay protection. Suitable for rural outdoor substations.

Model meaning



Summary

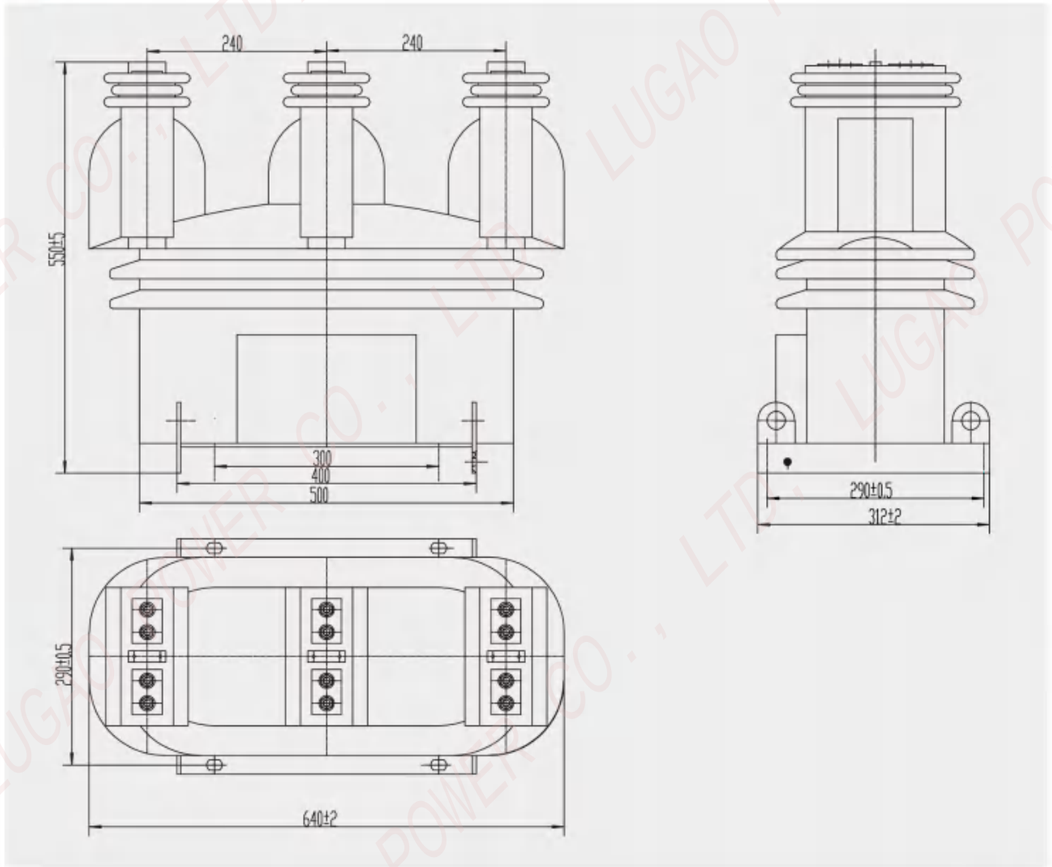
This type of transformer is an outdoor ring gas resin (Ciba CW5837, Switzerland) cast fully sealed, pillar type structure. Due to the use of outdoor epoxy resin casting, the product has characteristics such as arc resistance, UV resistance, aging resistance, and lifespan. This product consists of two single-phase fully insulated voltage transformers connected in a "V" shape. The two current transformers are connected in series on phases A and C respectively, and the secondary winding of the current transformers has taps to obtain different current changes.

Summary

1. Rated insulation level: 12/42/75kV
2. The surface creepage distance meets the Class II pollution level.
3. This type of combination transformer is composed of a single-phase voltage transformer and a single-phase current transformer, which are combined into three phases. The voltage transformer is wired with V/V-12.
4. This type of combination transformer meets the requirements of GB20840.2-2014 "Current Inductors", GB20840.3-2013 "Voltage Transformers", and GB17201-2007 "Combination Transformers".
5. The rated transformation ratio of the voltage transformer is 10000/100, and the three-phase rated secondary output is 0.2 level 20VA
6. The load power factor COS Φ=0.8 (hysteresis), and the safety factor of the current transformer instrument FS<10.
7. Environmental temperature: between 30 °C and 40 °C , with a daily average temperature not exceeding 30 °C ,
8. Altitude: not exceeding 1000m.

Rated Primary Current (A)	Rated Short-time Thermal-current (kA virtual value)	Rated Dynamic Stability Current (kA virtual value)	Rated Secondary Output (VA)	
			0.2S Class	0.2 Class
5-10	1.0	2.5	10	15
10-20	1.5	3.75		
15-30	2.4	6.0		
20-40	3.0	7.5		
30-60	4.5	11		
40-75	8.0	20		
50-100	9.0	22 5		
75-150	12	30		
100-200	16	40		
150-300	24	60		
200-400	32	80		
300-600	60	100		

Appearance dimension diagram



JDCF-66W1
Oil immersed voltage transformer



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

overview

This type of transformer is a single-phase four winding, series insulated outdoor device used for voltage measurement and relay protection in non effectively grounded neutral systems with a rated frequency of 50Hz and 66kV.

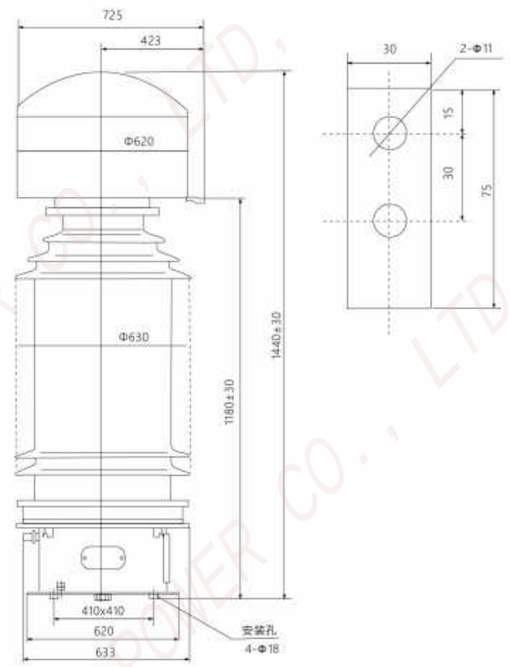
The product has good excitation characteristics, reliable operation, and easy maintenance. The top is equipped with a metal expander, which is a fully sealed structure.

JDCF-66W1 is suitable for altitudes below 1000m and ambient temperatures ranging from -30 ℃ to+40 ℃ . Technical parameters are shown in the table.

Main technical parameters

model	Rated primary voltage (kV)	Measure the secondary winding			Protecting the secondary winding			residual voltag winding			Secondary winding limit output (VA)	rated insulation level	Creepage distance cm/kV	Oil weight/ total weight kg
		Rated voltage (kV)	accuracy class	Rated output (VA)	Rated voltage (kV)	accuracy class	Rated output (VA)	Rated voltage (kV)	accuracy class	Rated output (VA)				
JDCF5-66W1	66/√3	0.1/√3	0.2	50	0.1/√3	3P	400	0.1/3	3P	100	2000	72.5/ 140/ 325	2.5	90/530

Appearance and installation dimensions



LB5-66(W)
(Original LCWB5-66) Oil immersed current transformer

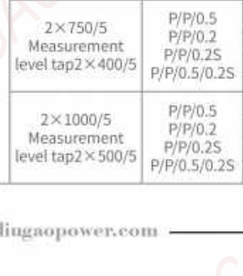


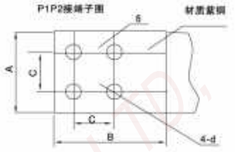
Respecting promise and keeping promise, operating in the right way, striving for perfection, coexistence and win-win situation

overview

This type of transformer is suitable for current and energy measurement and relay protection in 50Hz, 66kV power systems. This product is a fully sealed porcelain box type oil paper insulated chain structure, with three or four secondary windings. The primary winding is made into two sections, and two current ratios can be obtained through different wiring methods of the outlet terminals on the oil storage tank. The body is installed in the porcelain box and fixed on the base, and the secondary outlet is led out by a small porcelain sleeve. The oil storage tank is equipped with a metal expander. This product is suitable for altitudes below 1000m and ambient temperatures ranging from -30 °C to+40 °C

Appearance and installation dimensions





1. Grounding bolt
2. Line clamp
3. Oil drain valve
4. Nameplate
5. Base
6. Ceramic sleeve
7. Oil storage tank
8. Connecting piece
9. Primary wiring terminal P2
10. Primary wiring terminal P1
11. Expansion device

额定一次电流 (A)	A	B	C	d	δ
2×50-2×400	60	65	30	14	10
2×50-2×800	80	85	40	16	12

Main technical parameters

Rated voltage (kV)	Rated current ratio (A)	Level combination	accuracy class	Rated output (VA) Full turns	Rated output (VA) tap Level 0.5	accuracy limit factor	polarity	Rated short-time thermal current (kA))	Rated dynamic stability current (KA)	Rated insulation level (KA)	Creepage distance (mm)	Oil weight kg	Total weight kg
66	2×25~ 2×750/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15	minus	2.7~50	6.8~ 125	72.5/ 140/ 325	1.8	100	440
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								
	2×600/5 Measurement level tap2×300/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15		25~50	62~ 125				
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								
	2×750/5 Measurement level tap2×400/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15		25~50	62~ 125		2.5		
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								
	2×1000/5 Measurement level tap2×500/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15		25~50	62~ 125				
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								

TYD35-35/66/110/220KV
Capacitive Voltage Transformer



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

overview

Capacitive voltage transformers are widely used in AC power systems for measurement, control, protection, and high-frequency carrier communication.

Environmental conditions for use

- Altitude ≤ 2000m: (Products with an altitude exceeding 2000m can also be provided)
- Maximum wind speed: 42m/s;
- Environmental temperature: -40 ℃ ~+45 ℃
- Ice thickness: 10mm;
- Pollution level: external insulation creepage distance ≥ 25mm/kV or ≥ 31mm/kV;
- Seismic intensity: not exceeding 8 degrees;
- Rated frequency of the system: 50Hz;
- Neutral point effective grounding system or neutral point ineffective grounding system;

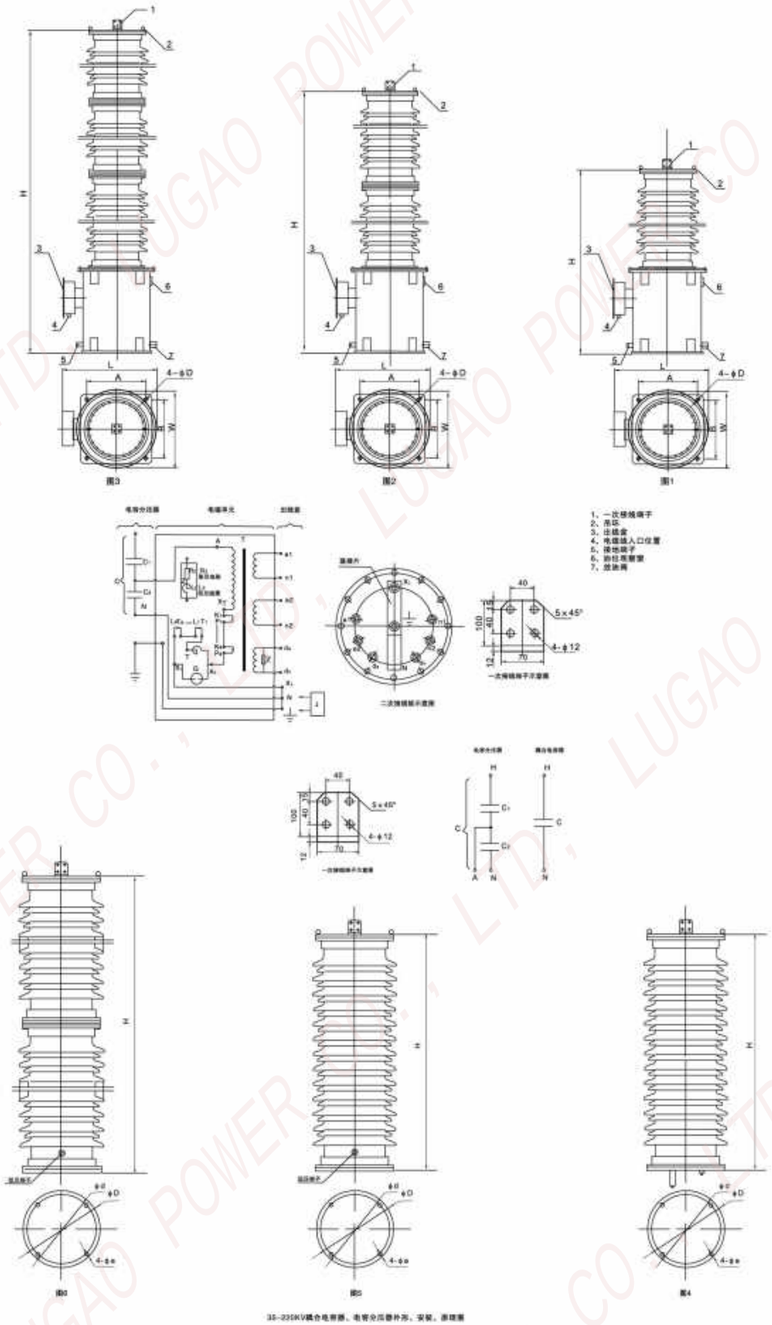
Technical Parameter

Rated primary voltage: 35/ √ 3kV, 66/ √ 3kV, 110/ √ 3kV, 220/ √ 3kV, 330/ √ 3kV, 500/ √ 3kV
Rated secondary voltage: 100V, 100/ √ 3V, 100/3V
Accuracy level: 0.2; 0.5; 1.0; 3P;6P
Rated capacitance: 0.005~0.02 μ F
The allowable deviation of the capacitance of the capacitive voltage divider is -5%~+10%, and the allowable deviation of the voltage divider ratio is ± 5%.
The dielectric loss factor of the capacitive voltage divider is low, and the partial discharge is small.
Ferromagnetic resonance:
Capacitive voltage transformers contain capacitors and nonlinear inductive components inside, which may also resonate under certain conditions. In order to suppress ferromagnetic resonance, the product is equipped with advanced speed saturation dampers inside, which enable the product to effectively dampen various ferromagnetic resonances at any operating voltage from low to high.
Transient response:
The definition of transient response is the residual component of the secondary voltage of a capacitive voltage transformer after a short circuit on the primary side and one cycle. The transient response index of the capacitive voltage transformer we produce is that within one cycle after the primary side short circuit, the secondary side voltage can drop to below 10% of the pre short circuit voltage.

Ordering Instructions

The following content should be provided in the contract
Product name, model, and specifications:
Grounding method of the system:
Primary and secondary rated voltage
Accuracy level and load of secondary winding:
Creepage distance of external insulation:
If there are no requirements, supply according to the factory's standard parameters.

Appearance and installation dimensions



JDQXF-35/66/110/220

Sulfur hexafluoride gas insulated voltage transformer

LUGAO



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

overview

This series of products is single-phase and outdoor type, used for voltage measurement, relay protection, and automatic monitoring in AC power systems with rated voltages of 35, 66, 110, and 220kV and rated frequency of 50Hz. The grounding method of the operating system of transformers with 35 and 66kV levels is the neutral point non effective grounding system; the grounding method of the operating system of transformers with 110 and 220kV levels is the neutral point effective grounding system.

Structural characteristics

The product design is reasonable and has explosion-proof function.

Good sealing performance.

The level of partial discharge is low.

The product is capacitive, with low magnetic density and anti resonance.

Low dielectric loss factor and strong weather resistance.

Strong earthquake resistance capability

structure

The product adopts a box structure, consisting of several parts such as a primary terminal block, lead tube, high-voltage insulation sleeve, shell, body, junction box, and density relay (see Table 2 for external installation dimensions)

The transformer winding adopts a single-stage structure, and the composite insulation composed of SF6 gas and diamond grid adhesive polyester film can make the product withstand high voltage. The device body is fixed inside the housing, and the secondary winding lead wire is introduced into the junction box through the secondary wiring board. There are terminals for users to connect wires inside the junction box. In addition to placing the device body and fixing it, the shell is also equipped with SF6 density relays and SF6 inflation valves. The high-voltage insulation sleeve adopts high-strength ceramic sleeve or silicone rubber composite sleeve, which can withstand high pressure without damage. The sleeve is firmly connected to the primary wiring board through the upper and lower flanges of the sleeve. There is also a grounding plate on the shell.

Main technical parameters

PRODUCT MODEL	JDQX-5W2	JDQXF-66W2	JDQXF-110W2	JDQXF-220W2
Rated primary voltage (kV)	35/ √ 3	66/ √ 3	110 √ 3	220/V3
Rated frequency (Hz)	50	50	50	50
Maximum operating voltage (kV)	40.5	72.5	126	252
Rated secondary voltage (V)	100/ √ 3	100/ √ 3	100/ √ 3	100/ √ 3
Rated voltage of residual voltage winding (V)	100/3	100/3	100	100
Accuracy level (combination)	0.2/3P	0.2/0.5/3P	0.2/0.5/3P	0.2/0.5/3P
Rated output (corresponding) (VA)	50/100	100/100/100	150/150/300	100/150/300
Rated voltage factor/time	1.9/8h	1.9/8h	1.5/30S	1.5/30S
Primary winding grounding terminal withstand voltage (kV)	5	5	5	5
Induction withstand voltage of primary winding (KV)	95	160	230	460
Lightning full wave impulse gate voltage (peak kV)	200	350	480	950
Lightning cut-off impulse withstand voltage (peak kV)	220	360	530	1050
Zero meter withstand voltage (kV)	30.4	55	95	190
Working air pressure/supplementary air pressure (MPa)	0.4/0.35	0.4/0.35	0.4/0.35	0.4/0.35
Partial discharge level (pC)	⩽ 5	⩽ 5	⩽ 5	⩽ 5
Rated thermal limit output (VA)	500	1000	2000	1500
Annual gas leakage rate	⩽ 0.5%	⩽ 0.5%	⩽ 0.5%	⩽ 0.5%

Environmental conditions for use

◇ Environmental temperature: maximum temperature+40 ℃ : minimum temperature -25 ℃ : daily average temperature not exceeding+30 ℃ .

◇ Altitude: The altitude shall not exceed 1000m. If it exceeds 1000m, additional design shall be carried out

Relative humidity of the air: less than 95% (at 20 ℃).

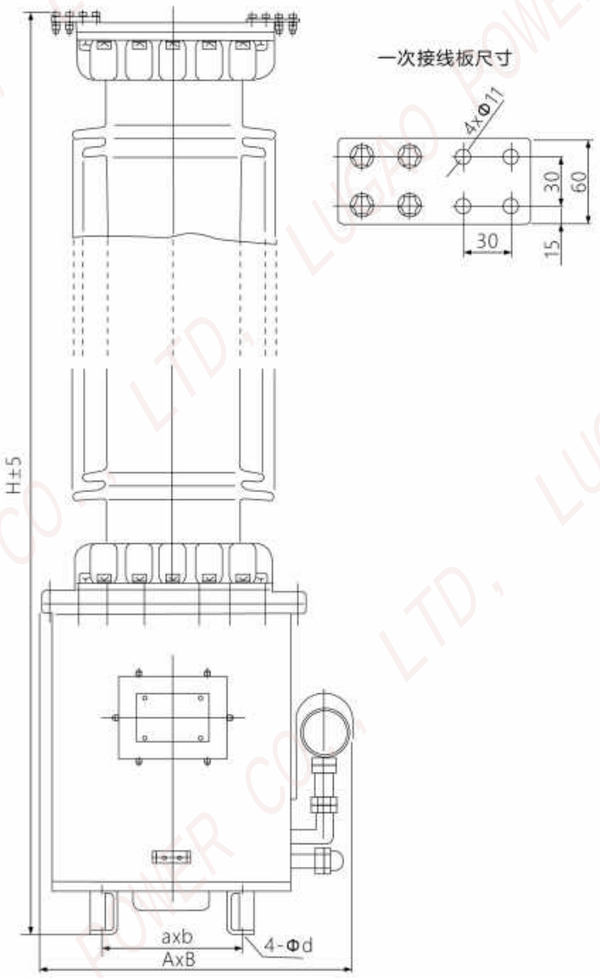
◇ Seismic tolerance: earthquake intensity of 8 degrees.

Wind speed: not exceeding 35m/s.

◇ Atmospheric conditions: There is no serious pollution in the atmosphere, and the pollution prevention level is level III.

Appearance and installation dimensions

PRODUCT MODEL	JDQX-35W2	JDQXF-66W2	JDQXF-110W2	JDQXF-220W2
Product dimensions	A×B×H	A×BxH	A×BxH	A×BxH
Length×Width×Height	590×517×1081	670×655×1930	698×710×1920	840×830×3392
Installation size	315×315	300×320	450×450	340×320
Installation aperture	4-φ22	4-φ18	4-φ20	4-φ18



LVQB(T)-35/66/110/220
type SF6 gas insulated current transformer



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

overview

LVQB (T) -35/66/110/220 current transformer is a SF6 gas insulated independent inverted structure current transformer independently developed by our factory based on reference to similar products at home and abroad. This product has advantages that oil immersed transformers cannot have: it uses high electrical strength SF6 gas as the insulation medium Good insulation performance, long service life, short production cycle, simplified process, oil-free, maintenance free, and safer and more reliable operation can meet the high reliability requirements of modern power grids for transmission and transformation equipment.

Structural characteristics

The product adopts an inverted structure, consisting of a shell, explosion-proof plate, body, sleeve, base, density relay and other components. The product is equipped with a shielding component to improve the electric field inside, and the secondary lead is connected to a sealed junction box. There are two types of shells: three-way shell and bell shaped shell.

The main insulation adopts a coaxial cylindrical uniform electric field structure. The primary guide rod and the secondary shield form a coaxial cylindrical uniform electric field with each other. To change the current ratio, a series parallel connection can be used, or a series parallel connection can be used, with all ratios obtained from the secondary tap.

Explosion proof plates have been installed on the upper part of the shell. The internal insulation of SF6 gas insulated transformers has high reliability, and it is generally impossible to generate internal insulation fault arcs. However, considering the possibility of internal arcs caused by unforeseeable unexpected factors, explosion-proof plates are specially installed as a security measure for the equipment.

External insulation sleeve: For products with 220kV and below, high-strength ceramic sleeves or high-temperature vulcanized silicone rubber composite hollow insulation sleeves are used, which can withstand a rated pressure of 1.6MPa (failure pressure>4.0MPa).

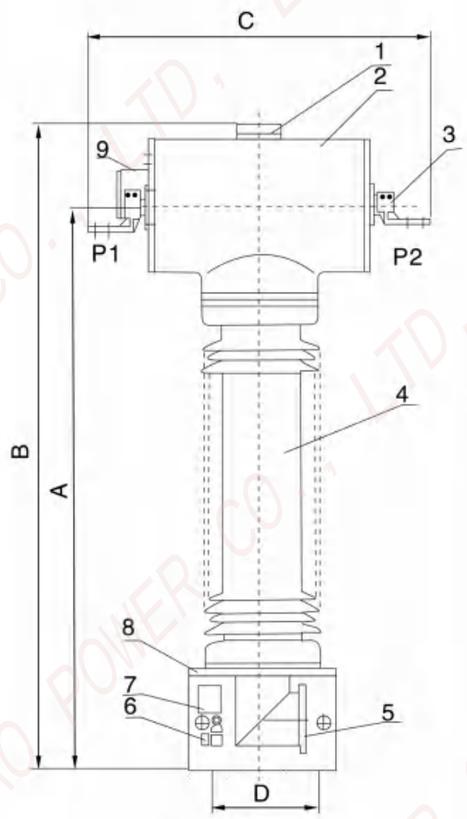
The product base is equipped with SF6 gas density relay, with a rated pressure of 0.4MPa. When the internal pressure of the product reaches 0.35MPa, the density relay emits an alarm signal; At 0.30MPa, the density relay will once again emit an alarm signal. Sulfur hexafluoride (SF6) density relay has automatic temperature compensation function, and the pressure value indicated within the range of -40 ℃ ~+60 ℃ is room temperature (pressure value (density) at 20 ℃). The density relay is equipped with a dedicated one-way self sealing valve, which automatically closes after the pressure gauge is removed. The sealing performance of SF6 electrical products is the most critical issue. The product adopts a mature sealing structure design, strict limit sealing, and high-quality sealing materials. At the same time, to ensure the long-term sealing performance, sealant and waterproof glue are used to ensure an annual leakage rate of 0.5% and ensure the long-term safe operation of the product.

The secondary wiring terminal is formed by integral die-casting, with high mechanical strength.

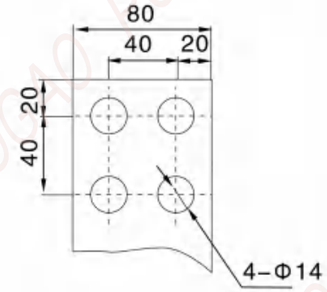
Appearance and installation dimensions

Serial Number	name
1	explosion protection
2	Three way shell
3	One time wiring terminal
4	External insulation sleeve
5	Secondary junction box
6	Inflation and deflation valve
7	density relay
8	base
9	Series conductive row

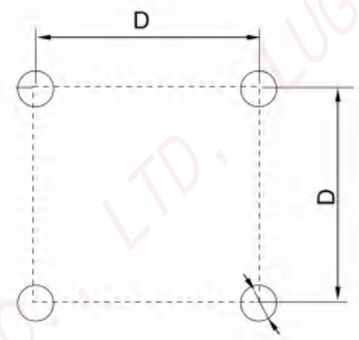
Product Model	size				
	A	B	C	D	E
LVQB-35	1335	1630	1150	340	18
LVQB-66	1695	2040	1200	400	18
LVQB-110	2180	2460	1290	475	18
LVQB-220	3270	3655	1460	610	24



The size of the wiring terminal (P1, P2,) is Dim

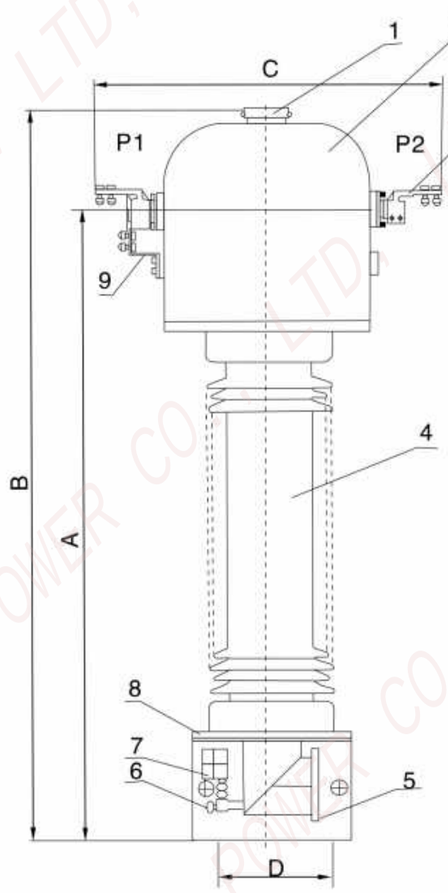


Base installation dimensions

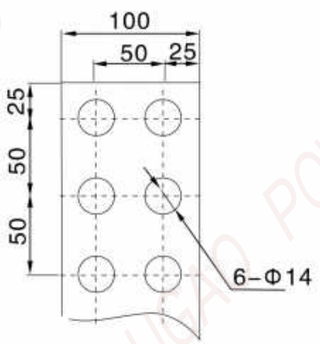


Appearance and installation dimensions

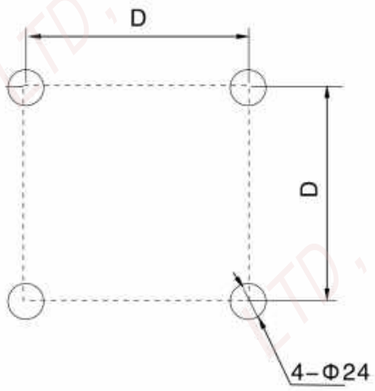
Serial Number	name
1	explosion protection
2	Three way shell
3	One time wiring terminal
4	External insulation sleeve
5	Secondary junction box
6	Inflation and deflation valve
7	density relay
8	base
9	Series conductive row



The size of the wiring terminal (P1, P2,) is Dim



Base installation dimensions



LB7-220 (W1) (FORMERLY LCWB7-220 (W1)
Oil immersed current transformer

LUGAO



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

LVQB-35~220 Gas Insulated Current Transformer

overview

This type of current transformer is suitable for current and energy measurement and relay protection in 220kV, 50Hz power systems.

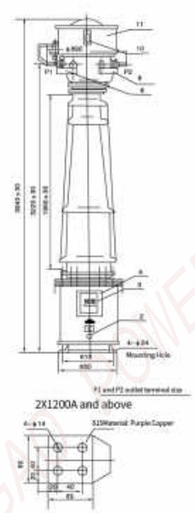
This product is equipped with a metal expander, a fully sealed structure, and a "U" - shaped capacitive insulation structure for the primary winding. It has a low dielectric loss rate and low partial discharge. The secondary winding generally consists of 4-6 windings, which can be combined in any order. It can produce special purpose current transformers with an accuracy level of 0.2S according to user needs.

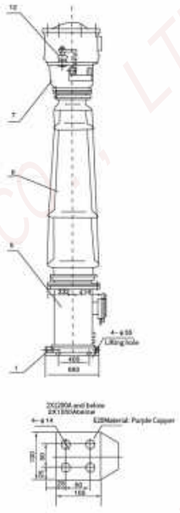
This type of current transformer is an outdoor device, and LB7-220 is suitable for areas below an altitude of 1700m; The LB7-220W1 model is suitable for polluted areas below an altitude of 1700m, with ambient temperatures ranging from -30 ℃ to+40 ℃ . The appearance and installation dimensions are shown in the diagram.

Main technical parameters

Rated current ratio (tap current ratio) (A)	Level combination	accuracy class	Rated output (VA)		accurate limiting value coefficient	Rated short-time thermal current (kA)	Rated dynamic stability current (kA)	Rated insulation level (kA)	Ceramic sleeve creepage distance (cm)	Total weight of oil kg
			Full turns	tap						
2×600/5 (2×300/5)	P1/P2/P1/0.5(0.2) P1/P2/P1/ P1/0.5(0.2) P1/P2/P1/P1/ P1/0.5(0.2) P1/P2/P1/0.5/0.2 P1/P2/P1/P1/0.2S P1/P2/P1/P1/P10.2S	5P 10P	50		20	(5s) 21-42 (or) 或 (3s) 31.5-63	55-110 或 (or) 80-160	252/ 395/ 950	410	365/ 1300
2×750/5 (2×400/5)				20						
2×800/5 (2×400/5)		5P 10P	50	50	12.5				550	
2×1000/5 (2×500/5		0.5	50	40						
2×1200/5 (2×600/5)		0.2	50	40 (0.5level)					630	
2×1250/5 (2×750/5)		0.5s	50	40 (0.5level)						

Appearance and installation dimensions





1. Valve
2. Grounding bolt
3. Nameplate
4. Junction box
5. Fuel tank
6. Ceramic sleeve
7. Oil storage tank
8. One time outgoing terminal
9. Connecting piece
10. Oil level inspection window
11. Expansion device
12. Overvoltage protector

JDC6-110W, JDC6-110GYW (FORMERLY JCC6-110W JCC6-110GYW)

Oil immersed voltage transformer

LUGAO



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

overview

The JDC6-110 voltage transformer is a single-phase three winding series insulation structure, used for voltage, energy measurement, and relay protection in a neutral point effective grounding system with a rated frequency of 50Hz and 110kV. This product has good excitation characteristics, strong anti resonance ability, reliable operation, and easy maintenance. The top is equipped with a stainless steel corrugated expander, which is a fully sealed structure.

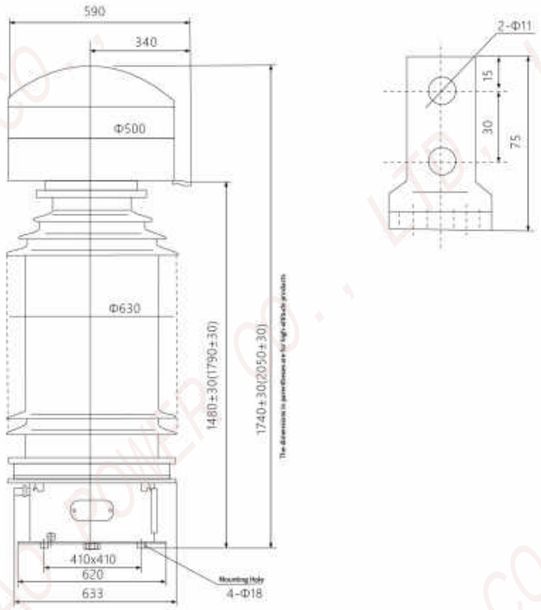
JDC6-110W is suitable for areas below an altitude of 1000m;

JDC6-110GYW is suitable for areas below an altitude of 3000m;

Main technical parameters

model	Rated primary voltage (kV)	Secondary winding			residual voltag winding			second winding the limit output (VA)	rated isolation level (kV)	creepage Compared to distance cm/kV	oil Total weight (kg)
		Rated voltage (kV)	accuracy class	Rated output (VA)	Rated voltage (kV)	accuracy class	rated output (VA)				
JDC6-110W	110/√3	0.1/√3	0.2	150	0.1	3p	300	2000	126/200/480	2.2	130/555
			0.5	300							
JDC6-110GYW			1	500						2.5	170/690
			3P	500							

Appearance and installation dimensions



LB6-66(W1)、LB6-110(W2)

Original LCWB6-110 (W2) oil immersed current transformer



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

overview

This type of transformer is used for current and energy measurement, as well as relay protection in 50Hz and 110kV power systems.

This type of product is equipped with a metal expander, a fully sealed structure, and a "U" - shaped capacitive insulation structure for the primary winding. The electric field distribution is uniform, the dielectric loss rate is small, and the partial discharge is low. The secondary winding generally consists of 3-6 windings, and the levels can be combined arbitrarily. It can produce special purpose current transformers with an accuracy level of 0.2S according to user needs.

This product is designed for outdoor use, with an ambient temperature range of -30 ℃ to+40 ℃ .

LB6-110W2 (LCWB6-110W2) is suitable for polluted areas below an altitude of 1700m:

LB6-110GYW2 (LCWB6-110GYW3) is suitable for high-altitude polluted areas below 3500m;

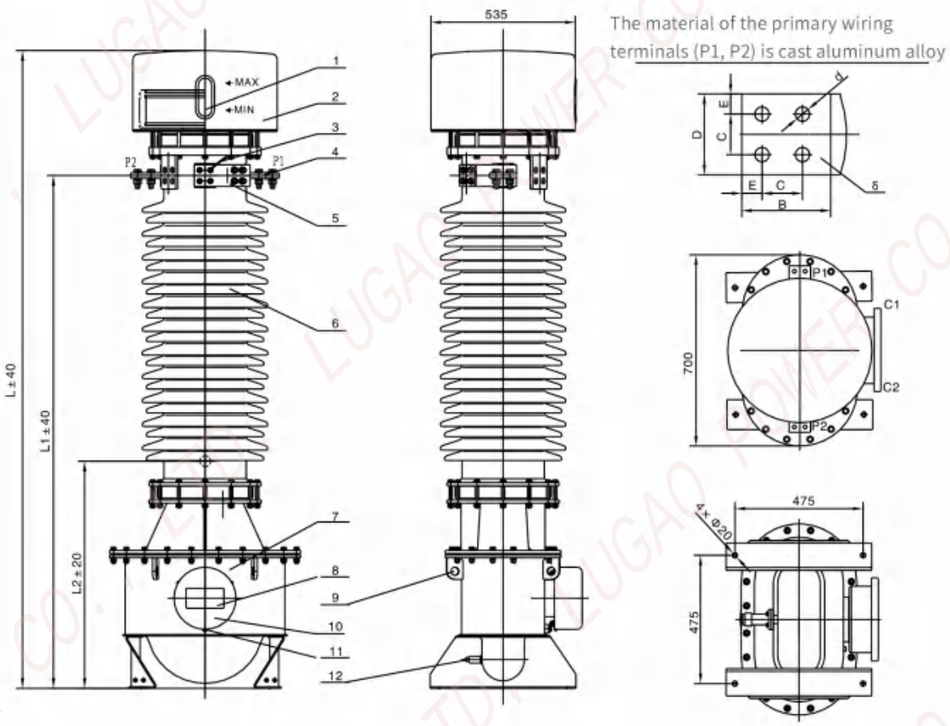
Main technical parameters

Rated voltage (kV))	Rated primary voltage (kV)	Level combination	accuracy class	Rated output (VA)		accuracy limit factor	polarity	Rated short-time thermal current (kA)	Rated dynamic stability current (KA)	Rated insulation level (KA)	Creepage distance (mm)	oil kg	Total weight kg
				Full turns	tap Level 0.5								
66	2×25~ 2×750/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15	minus	2.7~50	6.8~ 125	72.5/ 140/ 325	1.8	100	440
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								
	2×600/5 Measurement level tap 2×300/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15		25~50	62~ 125				
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								

Continuing the above table

Rated voltage (kV))	Rated primary voltage (kV)	Level combination	accuracy class	Rated output (VA)		accuracy limit factor	polarity	Rated short-time thermal current (kA)	Rated dynamic stability current (KA)	Rated insulation level (KA)	Creepage distance (mm)	oil kg	Total weight kg
				Full turns	tap Level 0.5								
66	2×750/5 Measurement level tap2×400/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15		25~50	62~ 125		2.5		
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								
	2×1000/5 Measurement level tap2×500/5	P/P/0.5 P/P/0.2 P/P/0.2S P/P/0.5/0.2S	5P10P	50		15		25~50	62~ 125				
			0.5	50	30								
			0.2	50	30								
			0.2S	40	30								

Appearance and installation dimensions



The material of the primary wiring terminals (P1, P2) is cast aluminum alloy

1. Oil level window
2. Metal expander
3. Equipotential bonding wire
4. One time wiring terminal
5. Connecting piece
6. Ceramic sleeve
7. Fuel tank
8. Nameplate
9. Lifting hole
10. Secondary outlet box
11. Grounding bolt
12. Oil drain valve

model	L	L1	L2	notes
LB6-110W3	2400	1935	860	Four windings
LB6-110W3	2500	2035	940	5、Six windings
LB6-110GYW3	2550	2085	920	Four winding plateau
LB6-110GYW3	2650	2185	1000	5、Six winding plateau

model	D	B	C	d	E	δ
LB6-110W3	100	110	50	18	25	20
LB6-110GYW3	100	110	50	18	25	20