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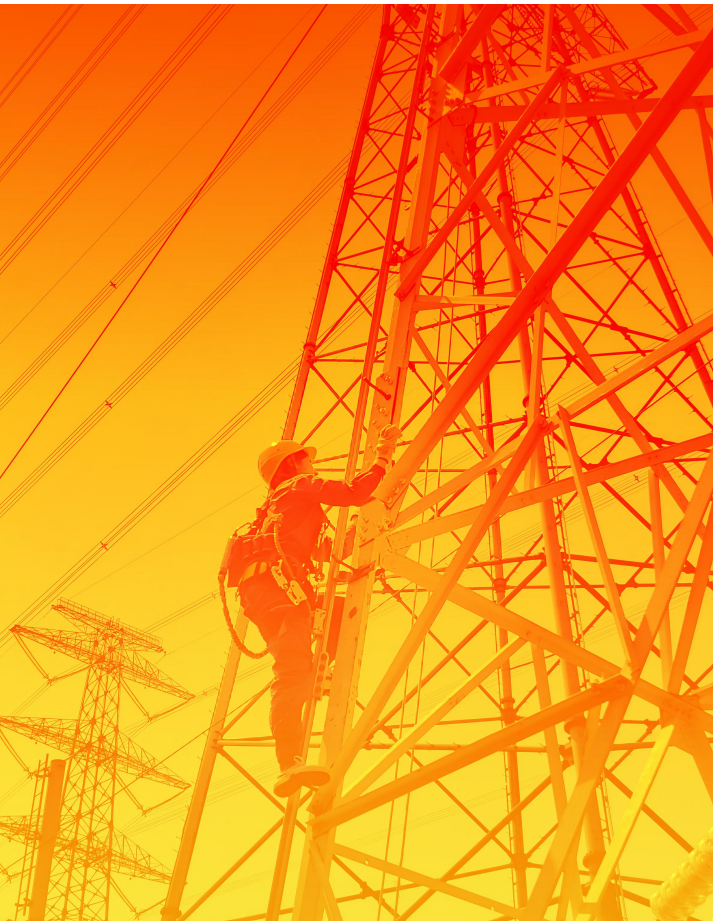
-VCB/LBS/Earthing Switch-

Product Catalog

DSJ Electrical Co.,Ltd



About DSJ

Building Power, Building Trust: 42 Years of Excellence

Founded in 1983, DSJ has established itself as a leading force in China's electrical distribution industry, with 42 years of expertise in both medium-voltage and low-voltage electrical products.

As an outstanding enterprise, DSJ boasts independent research, development, production, and sales capabilities, ensuring that we can meet customers' needs with the fastest delivery and the highest level of customization. Our workforce consists of over 300 employees, including 50 senior management professionals, 30 experienced engineers, 8 senior designers, and 5 senior technicians.

We specialize in the manufacturing of distribution, circuit protection, and photovoltaic products that exceed both national and international quality standards. Over the past 40 years, DSJ has provided high-quality, safe electrical products to public facilities, large enterprises, and residential sectors worldwide, with one of the lowest return rates in the industry.

As a well-recognized Chinese brand, DSJ is dedicated to upholding our brand integrity. We adhere to the core philosophy of "Quality First, Customer Priority, and Integrity at the Core," striving to bring premium Chinese power equipment and exceptional service capabilities to customers worldwide.

Core Ideology

Quality First

Customer Priority

Integrity at the Core

40+
Years of Excellence
Established in 1983, DSJ has delivered trusted solutions for over four decades, solidifying its position as a pioneer in electrical equipment.

15,000+
Square Meters of Facility
Strong manufacturing capabilities, with the capacity to produce 8,000 units per month.

$108
Million in Revenue
The continuous growth in sales volume demonstrates the market's recognition of us.

Factory Introduction

DSJ is a financially robust company with a registered capital of **7.84 million** USD and a facility spanning more than **15,000** square meters.

Our production capabilities are supported by **30** units of intelligent product testing and debugging equipment, **50** machine tools, and **6** automated production lines.

DSJ is also home to four innovation laboratories, holding more than **60** national invention patents.

Honors and Certifications

- We are holding more than 60 national invention patents

Invention Patent

Utility Model Patent

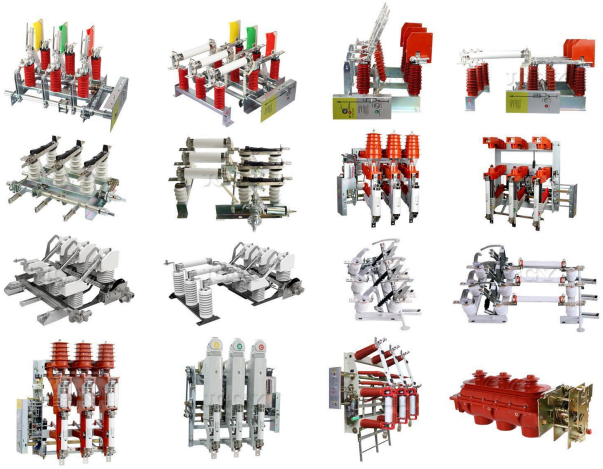
- We have been awarded numerous prestigious national-level honors

Indoor Load Break Switch

Indoor load break switch, fuse combination electric appliance can divide load current, overload current, the broken wire short circuit current. This switch is applicable to 36 kv and below three phase power distribution system, as the transformer, cables, overhead line and power equipment control and protection; Especially suitable for city network, site of the terminal substation and box transformer substation. And suitable for ring network, double radiation power supply unit control and protection.

- VersaRupter at a glance

Applications	Metal-enclosed and padmount switchgear for utility distribution, industrial, mining and commercial installations		
Ratings	Voltage	Loadbreak current	Momentary
	4.76-27 kV	200, 600, and 1200 A	40 kA momentary / 40 kA fault close
	38 kV	600 and 800 A	40 kA momentary / 30 kA fault close
	15-15.5 kV	600 and 1200 A	61 kA momentary / 61 kA fault close
Standards	IEC 60129, 60254, 60265, 60694, 420, 62271-105		



Outdoor Column Installed Insulation Load Break Switch

Column installed insulation load break switch, is suitable for the rated voltage 12/24/40.5kV,rated current 400A、630A、1250、50/60Hz power grid open circuit、load current in closed Power system overload curren. This load switch can separate those broken distribution line automatically. With the latest technology, it has the newest electronic controller, can be used by manual operation electric operation and operation from a long distance. Electronic controller is installed in a stainless steel cabinet which is suitable for using under all kinds of climatic conditions. Simple installation on column is convenient, fast, and also can reduce the construction cost.

Insulation level	Unit	NXB and NXBD		NXA
Rated voltage	kV	12	24	36
Power frequency withstand voltage, 50Hz				
- to earth and between phases	kV	42	50	70
- across the isolating distance	kV	48	60	80
Lightning impulse withstand voltage				
- to earth and between phases	kV	75	125	170
- across the isolating distance	kV	85	145	195
Standards	IEC62271-102 IEC 62271-103 IEC 62271-1			

Indoor Medium Voltage Vacuum Circuit-Breakers

Indoor vacuum circuit breaker is applicable 12kv 24kv 36kv power system, as a protection and control unit of power equipment, industrial and mining enterprises, it can be used for switching loads of various kinds and frequent operation, repeatedly breaking short-circuit current situation. the vacuum interrupter and the main circuit part is fixedly sealed into a whole, protect the interrupter from collision dust and gel image, strong ability to adapt to the environment, greatly reduces the cost of operation and maintenance. The real implementation of the product part of a maintenance free, low maintenance operation mechanism.

Insulation level	Unit	Value		
Rated voltage	kV	12	24	36
Rated frequency	Hz	50-60	50-60	50-60
Rated normal current	A	630...4000	630...2500	630...3150
Rated short-circuit current	kA	16...31.5 40 50 63	16...25	16...40
Rated short-time withstand current	kA	40...80 100 125 158	40...63	40...100
Standards	IEC 62271-1 IEC 62271-100			

MV outdoor vacuum reclosers

The outdoor column vacuum circuit breaker is a three-phase outdoor power distribution equipment with AC 50HZ, rated voltage 10KV, 20(24)KV, 35(40.5)KV. It is mainly used for connecting and breaking the load current, overload and short-circuit current in the power system, especially suitable for the protection and control of urban and rural power grids and frequently operating places.The boundaries circuit breaker also can be equipped with wired or wireless communication (GSM/GPRS) modules that can send information to the electric power control center automatically to realize data measurement and remote making and breaking control to the user loads.

Insulation level		Value	
Rated system voltage	12	24	36
Rated frequency		50 / 60 Hz	
Nominal current at 40℃ ambient	630 Amps	1000 Amps	1200 Amps
Short time current withstand capability	12.5 kArms for 3 sec	12.5 kArms for 3 sec	16 kArms for 3 sec
Fault current breaking capability	12.5 kArms	12.5 kArms	12.5 kArms
Standards	IEC 62271-100		

Indoor Earthing Switch

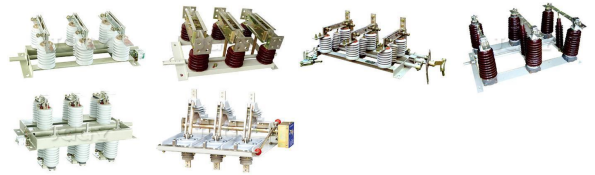
Earthing switch is meant for short circuiting and earthing grids that have been disconnected from the power supply.
Earthing switches with fault making capacity can be reliably closed against short-circuit currents thus protecting the operator and switchgear in the cause of inadvertent operation.
Earthing switch it is applicable to power system 40.5kV and below, and can be equipped with various types of high voltage switch cabinets, and can also be used as grounding protection in maintenance of high voltage electrical equipment.
The snap-action closing mechanism is independent of the operation.
Sufficiently dimensioned to carry short-circuit making current.
manual or motor operating mechanism can be used.
Compact design with minimal space requirements

Standards	IEC 62271-102

Other Products Series

Need more related products can be directly consulting company.

- Indoor High-Voltage Disconnecting Switch



- Outdoor High-Voltage Disconnecting Switch

- High Voltage Fuse

- Other Components

VJG(C)-12GD

Indoor high voltage three-position vacuum circuit breaker

1、Overview

VJGIC)-12GD series indoor high-voltage three-position vacuum circuit breaker has excellent electrical and mechanical properties, reliable and stable structure, and long life. The main circuit adopts sealed poles, which improves the environmental adaptability and insulation reliability of the circuit breaker; reliable mechanical and electronic performance, extended mechanical life and electronic life, make the circuit breaker maintenance-free possible. It can be used in 3.6-12kV power system, as a power grid equipment, industrial and mining enterprise power design protection box control unit, suitable for various loads of different natures and frequent operations, multiple short-circuit current interruption occasions. The product has a complete mechanical and electrical interlocking system, with extremely high operational stability and reliability, ensuring the safety of operators and equipment, and ensuring the safety of electricity use.

- Adopts sealed pole technology.
- The product adopts modular design: frame structure, integrated with isolating switch, sealed vacuum circuit breaker, grounding switch, sensor, interlocking mechanism, operating mechanism

High-performance miniaturized high-voltage electrical product.

- The size of the adapted cabinet is （1450 x 1000 x 1800) mm.
- Rotary isolating switch, with visible break after opening.
- There is a mandatory mechanical interlock between the isolating switch, circuit breaker, and grounding switch to prevent misoperation.
- The circuit breaker adopts a modular operating mechanism, which can be replaced or repaired individually and has good interchangeability. It can be operated manually, or AC or DC energy storage operation can be selected for remote control.
- The cabinet door and grounding switch are designed with a reliable interlocking structure to ensure the safety of the operator.

2、Product model and meaning

VJG(C) – 12 G D / 1250 – 31.5

- 31.5 — Rated short-circuit breaking current (20, 25, 31.5) kA
- 1250 — Rated current (1630, 1250)A
- D — Earthing switch
- G — Disconnector
- 12 — Rated voltage kV
- VJG(C) — Basic model

Note: If there is no grounding switch, the grounding operating shaft will act as an interlocking shaft and the overall dimensions will remain unchanged.

3、Environmental conditions for use

- Ambient temperature around the gate: -25°C +40°C;
- Relative humidity: daily average <95%, monthly average <90%;
- Altitude: not higher than 1000m;
- Earthquake intensity: not more than 8 degrees:
- Place of use: No explosion hazard, chemical and severe vibration and dirt.
- Conditions for use at altitudes above 1000 meters
- When the altitude exceeds 1000 meters, the air density will decrease relatively, which will affect the protection factor of the electrical appliances.
- The user must make relevant calculations when selecting a switch.

- Suggested calculation method:

Find out the height H of the designated location, calculate the relevant height coefficient Ka (Formula 1) according to GB311.

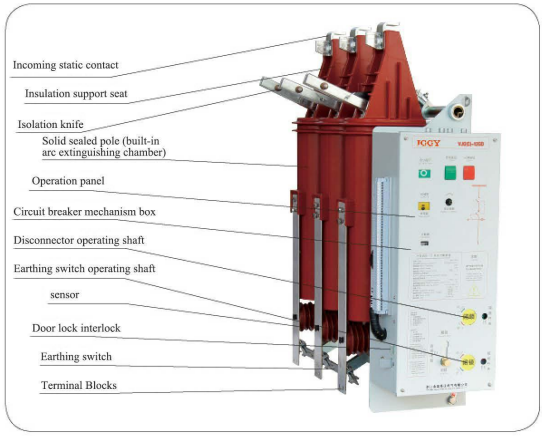
Multiply the lightning impulse withstand voltage and power frequency withstand voltage of the switch by Ka. The obtained value is the withstand voltage parameter that the switch must meet when used at a high altitude H and in an environment below 1000 meters.

formula 1: $Ka = \frac{1}{1.1-H \times 10-4}$

4、Applicable cabinet type

It can be installed in a small fixed cabinet, ring main unit or box transformer.

The main circuit of VJG(G-12GD series indoor high voltage three-position vacuum circuit breaker is arranged longitudinally, with the isolating switch at the top, the vacuum circuit breaker in the middle, and the grounding switch at the bottom. The operating mechanism, circuit breaker mechanism, and interlocking mechanism are located at the front of the switch. This switch can be installed upside down.



5、Safe and excellent sealed pole

High reliability, stable insulation performance, more solid structure, miniaturization, surface maintenance, more environmentally friendly, and high resistance to mechanical damage.

6、Visible isolation break

Rotary isolating switch with visible break after opening.

7、Modular operating mechanism

The circuit breaker adopts modular operating mechanism, which can be replaced or repaired independently and has good interchangeability. It can be operated manually or by AC or DC energy storage to achieve remote control.

8、Three-axis step-by-step operation, reliable machine interlocking

The isolating switch, circuit breaker and earthing switch are operated by separate axes, and there is a forced mechanical interlock between the three axes to prevent misoperation.

9、The outlet end is equipped with a non-contact type live display sensor

No capacitance, using non-contact sensing technology, safe and reliable!

10、The cabinet door and the connecting switch are designed with a reliable interlocking structure

Ensure operator safety with adjustment-free door locks.

VJG(C)-12GD
Indoor high voltage three-position vacuum circuit breaker

11、Technical parameters (see table)

Serial number	project	unit	Numeric		
1	Rated voltage	kV	12		
2	(1min) Rated short-time power frequency withstand voltage: phase/break		42/48		
3	Rated lightning impulse withstand voltage (peak): phase/break		75/85		
4	Secondary circuit power frequency withstand voltage (1min)	V	2000		
5	Rated frequency	Hz	50		
6	Rated current	A	6301250		
7	Rated short-circuit breaking current	kA	20	25	31.5
8	Rated peak withstand current	kA	50	63	80
9	Rated short circuit making current	kA	50	63	80
10	4s rated short-time withstand current	kA	20	25	31.5
11	Rated short-time withstand current duration	s	4		
12	Rated single/back-to-back capacitor bank breaking current	A	630/400		
13	Rated capacitor bank Closing inrush current	kA	12.5 (frequency not more than 1000Hz)		
14	Rated short-circuit current breaking times	Second -rate	30		
15	Mechanical life (disconnector/circuit breaker/ earthing switch)		3000/10000/3000		
16	Allowable cumulative wear thickness of moving and static contacts	mm	3		
17	Rated closing operating voltage	V	AC24/48/110/220DC24/48/110/220		
18	Rated opening operating voltage				
19	Energy storage motor rated voltage	V	AC24/48/110/220DC24/48/110/220		
20	Energy storage motor rated power	W	70		
21	Energy storage time	s	≤ 15		
22	Contact opening distance	mm	9 ± 1		
23	Overtravel		3.5 ± 1		
24	Contact closing bounce time	ms	≤ 2		
25	Three-phase opening and closing in different periods		≤ 2		
26	Opening time (rated voltage)		≤ 40		
27	Closing time (rated voltage)		≤ 60		
28	Average opening speed (contact just opened ~ 6mm)	m/s	0.9~1.3		
29	Average closing speed (6mm~contact just closed)		0.5~1.1		
30	Contact opening rebound amplitude	mm	≤ 2		
31	Contact closing contact pressure	N	2400 ± 200(20-25kA)3100+200(31.5kA)		
32	Rated operating sequence		O-0.3s-CO-180s-CO		

12、Configuration

It includes anti-jump device, no locking device, no over-current device, and no under-voltage device.

Standard configuration: wiring according to standard wiring principle

Configuration	parameter	Remark
Energy storage motor	75W	Standard
Closing coil	AID)C24-220V	Standard
Opening coil	AID)C24-220V	Standard
Disconnector Auxiliary Switch	1 open 1 closed 5A	Standard
Earthing switch Auxiliary switch	1 open 1 closed 5A	Standard
Energy storage mechanism auxiliary switch	2 open 1 closed 5A	Standard
Circuit breaker auxiliary switch	8 open 8 closed 5A	Standard
Anti-jump device	AID)C24-220V	Standard
Charge sensor (inductive)	Contactless	Standard
Locking device	AID)C24-220V	Optional
Overcurrent release	3.5A、5A	Optional
Undervoltage device	AID)C24-220V	Optional

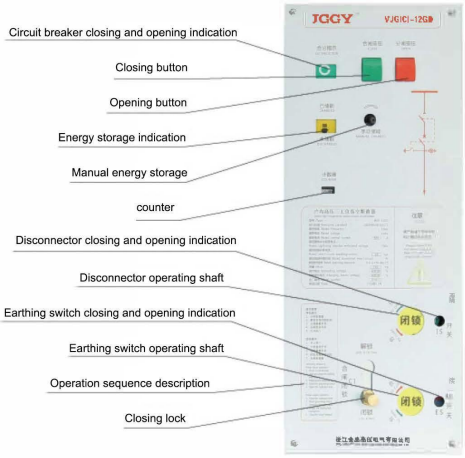
Refer to the switch operation sign on the right for instructions as follows:

◎ Double interlocking: Circuit breakers, isolating switches, and grounding switches are equipped with mandatory mechanical interlocking operations;

◎ Design anti misoperation locking devices for circuit breakers, isolating switches, and grounding switches;

○ Isolation switch and grounding switch are independent shafts that operate step by step. Forced mechanical interlocking operation is set between two operating shafts:

○ After the switch is opened and closed, please confirm its respective opening and closing status through the observation window.



13、Interlocking of circuit breakers, disconnectors, earthing switches and cabinet doors

- The isolating switch and the earthing switch are mechanically interlocked with each other. They can only be closed in two-in-one mode, and cannot be closed at the same time:
- The isolating switch can only be closed after the grounding switch is opened: the grounding switch cannot be closed after the isolating switch is closed.
- When the closing lock is in the locked position, the circuit breaker can be closed, and the disconnector and earthing switch cannot be operated.
- When the closing lock is in the unlocked position, the circuit breaker cannot be closed, and the disconnector and earthing switch can be operated.
- After the circuit breaker is closed, the closing lock cannot be unlocked, and the disconnector and earthing switch cannot be operated.
- The cabinet door can only be opened after the grounding switch is closed.
- The grounding switch can only be opened after the cabinet door is closed.

14、Closing and locking operation

- atresia

Rotate the outer ring of the locking operating shaft 90° (to release the position), push it to the limit position in the locking direction, and then rotate the outer ring of the operating shaft 90° (to position).

- Unlock

Rotate the outer ring of the locking operating shaft 90° (to release the positioning), push it to the limit position in the unlocking direction, and then rotate the outer ring of the operating shaft 90° (to position).

15、Circuit breaker operation

- Manual Operation

1、Use the special energy storage handle to store energy.

2、Closing: Press the closing button. (If there is a closing lock or undervoltage device, the secondary circuit must be energized before closing.)

3、Open: Press the open button.

- Electric operation

1、After the primary circuit is energized, the energy storage mechanism automatically stores energy.

2、Closing: Press the closing button in the control circuit.

3、Opening: Press the opening button in the control circuit.

16、Operation of the isolating switch

Clockwise direction opens the isolating switch.

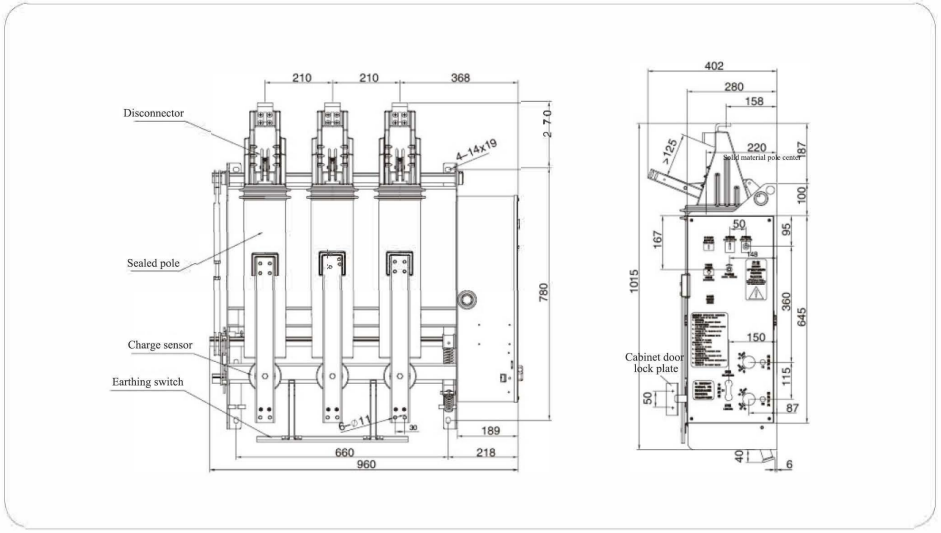
Counterclockwise direction means the isolating switch is closed.

17、Door Lock Operation

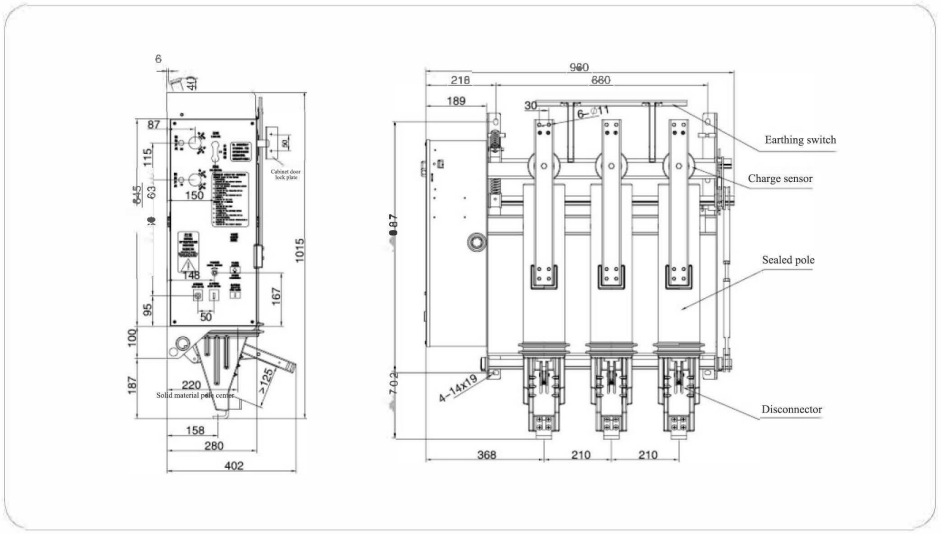
Closing the cabinet door will automatically unlock the lock between the cabinet door and the grounding switch. After the grounding switch is closed, the grounding switch will automatically lock and cannot be operated after the cabinet door is opened.

18、Appearance and installation dimensions

VJG(C)-12GD/(1250)-(31.5) Indoor high voltage three-position vacuum circuit breaker

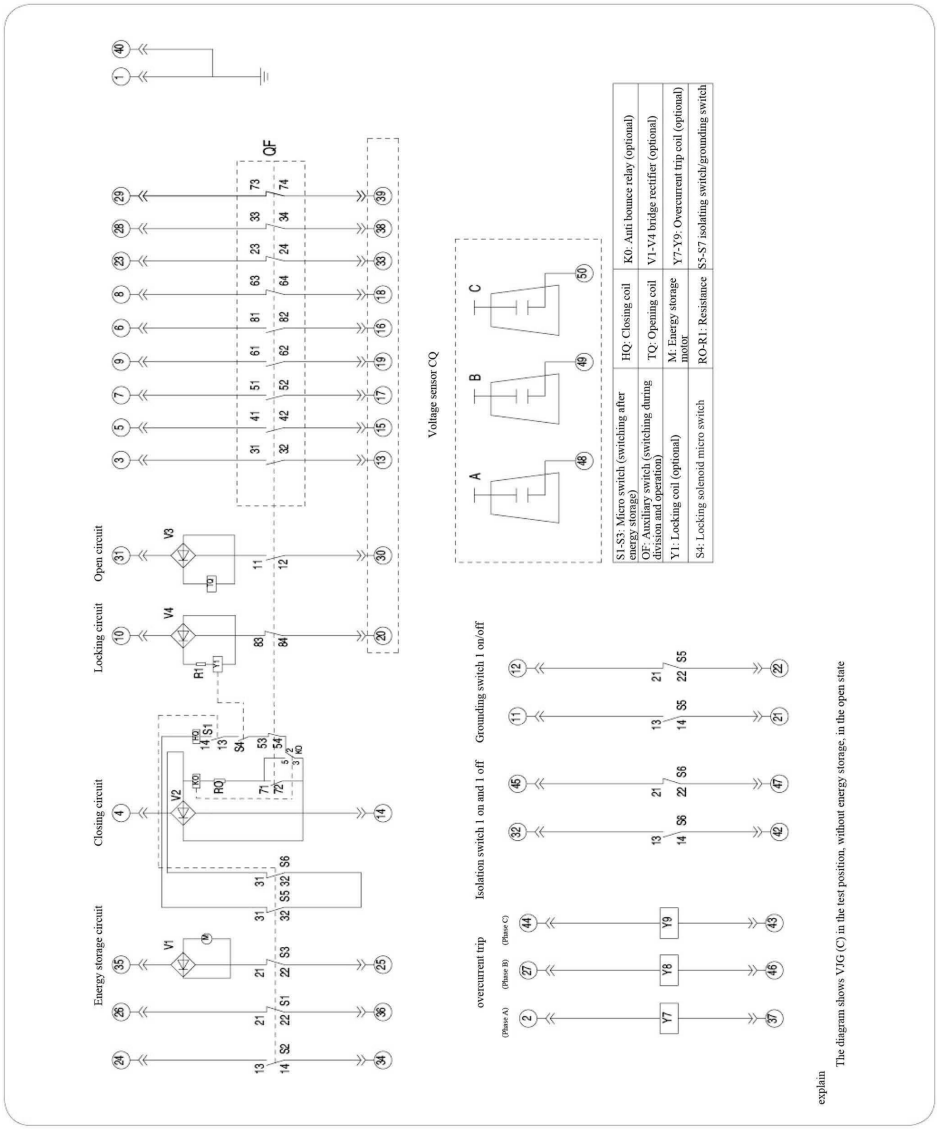


VJG(C)-12GD/(1250)-(31.5) Indoor high voltage three-position vacuum circuit breaker (flip-type)



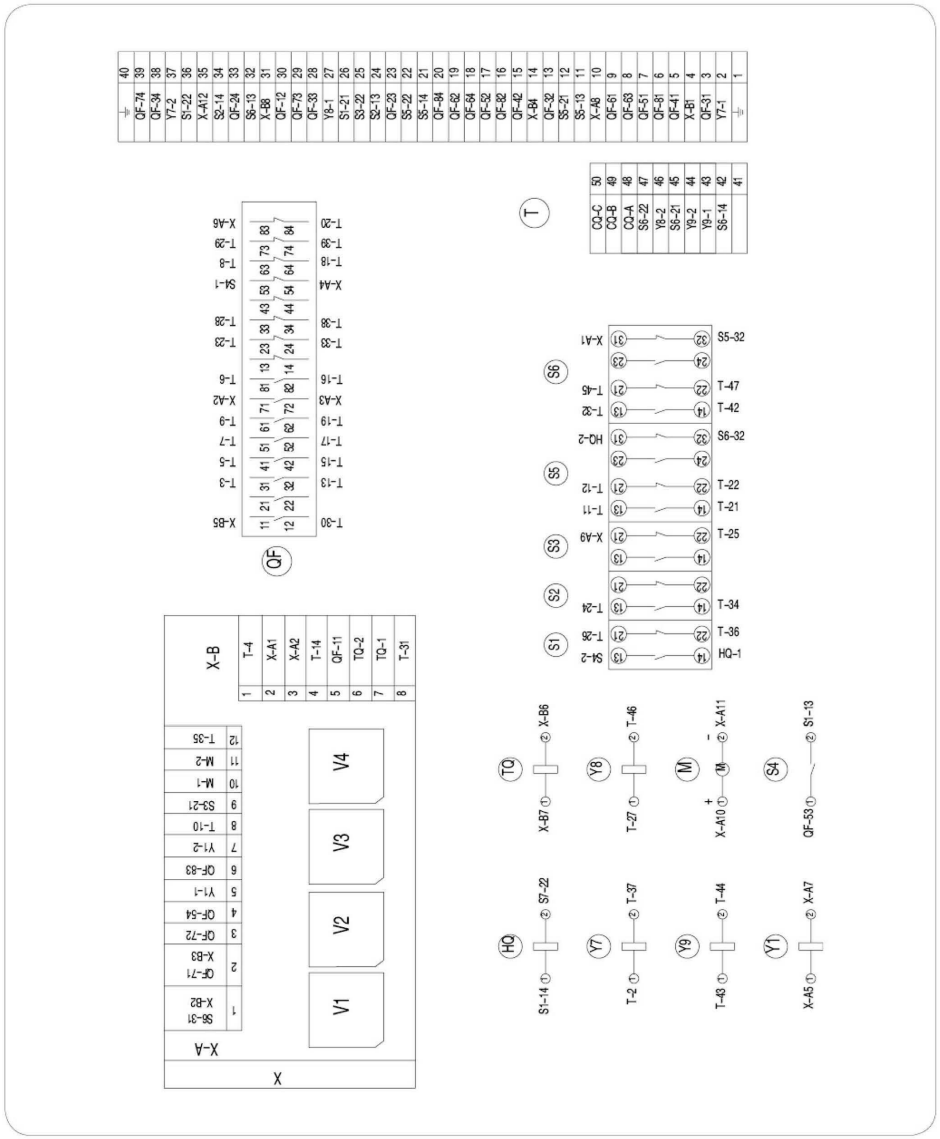
19、Wiring schematic diagram

VJG(C)-12GD Secondary wiring schematic diagram

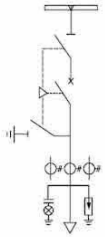
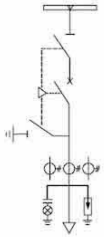
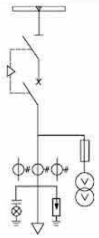
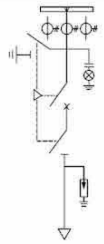
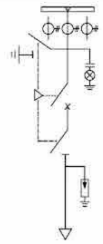
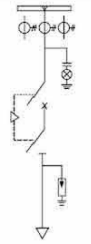
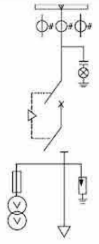


19、Wiring schematic diagram

VJG(C)-12GD Secondary wiring



20、One-time plan

Primary main wiring				
Solution No.	01	02	03	04
Rated voltage(kV)	12	12	12	12
Rated current(A)	630–1250	630–1250	630–1250	630–1250
Circuit breaker (circuit breaker, disconnector, grounding switch, interlocking mechanism integrated)	VJG(C)-12GD VJG(C)-12GD/1250-31.5	VJG(C)-12GD VJG(C)-12GD/1250-31.5	VJG(C)-12G VJG(C)-12G/1250-31.5	VJG(C)-12G VJG(C)-12G/1250-31.5
Fuse				3
Voltage transformer				2
Current transformer	3	3	3	3
lightning arrester	3	3	3	3
Charge indicator (inductive)	3	3	3	3
Width x Depth x Height (mm)	500×1000×(1700 ~ 2200)	500×1000×(1700 ~ 2200)	500×1000×(1700 ~ 2200)	500×1000×(1700 ~ 2200)
Primary main wiring				
Solution No.	01	02	03	04
Rated voltage(kV)	12	12	12	12
Rated current(A)	630–1250	630–1250	630–1250	630–1250
Circuit breaker (circuit breaker, disconnector, grounding switch, interlocking mechanism integrated)	VJG(C)-12GD VJG(C)-12GD/1250-31.5	VJG(C)-12GD VJG(C)-12GD/1250-31.5	VJG(C)-12G VJG(C)-12G/1250-31.5	VJG(C)-12GD VJG(C)-12GD/1250-31.5
Fuse				3
Voltage transformer				2
Current transformer	3	3	3	3
lightning arrester	3	3	3	3
Charge indicator (inductive)	3	3	3	3
Width x Depth x Height (mm)	500×1000×(1700 ~ 2200)	500×1000×(1700 ~ 2200)	500×1000×(1700 ~ 2200)	500×1000×(1700 ~ 2200)

21、Factory conditionsFactory conditions

Before leaving the factory, vacuum circuit breakers undergo complete performance testing and 300 times of mechanical running-in to ensure the reliability of each product leaving the factory.

22、Package

The vacuum circuit breaker should be in the open state when packaged, first sealed with a plastic bag, with an appropriate amount of desiccant built in, then fixed on a wooden base plate, and finally installed with plywood.

23、transportation

Only cranes, forklifts, cranes and other tools can be used for loading and unloading of packaging boxes. When lifting is required during transportation, it should be done strictly according to the positions marked on the outside of the packaging box.

24、Unpacking inspection

After receiving the product, the user should check it immediately. Check whether the circuit breaker is damaged during packaging and transportation, check whether the accessories are consistent with the packing list, and check whether the product model and specifications are the same as the order.

25、Factory documents and accessories

- User Manual
- Factory inspection report
- Electrical wiring diagram
- Operating handle
- Product Certificate
- Packing List
- Energy storage handle

26、store

The product should be stored in a well-ventilated, dry room without severe vibration and corrosive gas.

27、Installation, commissioning and operation

- Before installation, check whether the product is intact and whether the fasteners are loose.
- Remove dirt, especially dirt on the surface of insulating parts, which may be caused by penetrating packaging materials during transportation or during storage. Check the connection status of primary and secondary circuits and grounding bodies.
- Connect the auxiliary power supply to perform electric energy storage, or use the energy storage handle to perform manual energy storage. When the energy storage indicator shows that energy storage has been completed, it means that the motor energy storage is completed.
- Use buttons to perform opening and closing operations, and observe the operation of the circuit breaker opening and closing position indicators.
- During each operation, the counter on the circuit breaker automatically records the circuit breaker's closing and opening positions, which can be observed on the circuit breaker panel as indicated by the circuit breaker closing and opening indicators.

28、repair

- General Requirements

Maintenance is used to maintain trouble-free operation of the circuit breaker and obtain the longest service life.

Since the vacuum circuit breaker has the characteristics of simple structure and durability, it has a long service life. During the entire service life, the circuit breaker operating mechanism is maintenance-free, and the vacuum interrupter does not need to be repaired. Even frequent opening operations and breaking of short-circuit currents will not affect the vacuum degree.Lorem Ipsum

Maintenance work is related to the wear and aging of parts. In order to make the circuit breaker work reliably, the interval time and scope of maintenance work required will depend on factors such as the influence of the working environment, the number of operations, the running time and the number of short-circuit currents broken.

Under normal use conditions, due to careful inspection and maintenance, the service life of secondary auxiliary components meets more than 10,000 operations.

Notice

Maintenance work may only be performed by trained personnel who are familiar with the characteristics of this switchgear.

When carrying out maintenance work, all auxiliary power supplies must be disconnected and there is no risk of power being supplied again.

29、Inspection and maintenance

Circuit breaker body

Generally, the pole part of the circuit breaker needs to be repaired. The vacuum degree is checked only when there is a strong suspicion that the circuit breaker may have been subjected to external force, causing damage inside the vacuum interrupter. The service life of the vacuum interrupter depends on the total current limit value. The vacuum interrupter is replaced only when the total current limit value is reached.

Operating mechanism

Under normal use conditions, inspection within the number of operations of the service life is unnecessary. In the following cases, the operating mechanism should be inspected and performance tested.

- After a certain number of operations.
- Special operating conditions, including severe climatic conditions and severely polluted and corrosive gas environments.

Open the circuit breaker before performance testing:

Performance test range:

- Turn on the auxiliary power supply.
- Perform several opening and closing operations under no-load conditions to check the correctness of the action.

General requirements for vacuum circuit breakers

After the circuit breaker has been in operation for about 5 years or when the operating mechanism is repaired, the vacuum circuit breaker body should also be inspected, especially the appearance:

After the appearance inspection, the dirty and damp parts of the appearance surface need to be cleaned. Wipe the surface of the insulation with a thick cloth, and then wipe off other dirt with a thick cloth dipped in detergent.

For switchgear operating in some special applications or under particularly damaging environmental conditions (such as in an environment with highly polluted and heavily corrosive gases), the minimum time interval for the above inspections should be less than 5 years.

30、appendix

Manual energy storage rod for circuit breaker

Operating handle

31、Ordering Instructions

Please specify when ordering:

Circuit breaker model, name, configuration and order quantity;

Rated operating voltage:

If the user has other special requirements, they can indicate them in the technical agreement when ordering.

Rated voltage, rated current and rated breaking current of circuit breaker;

Name and quantity of spare parts: